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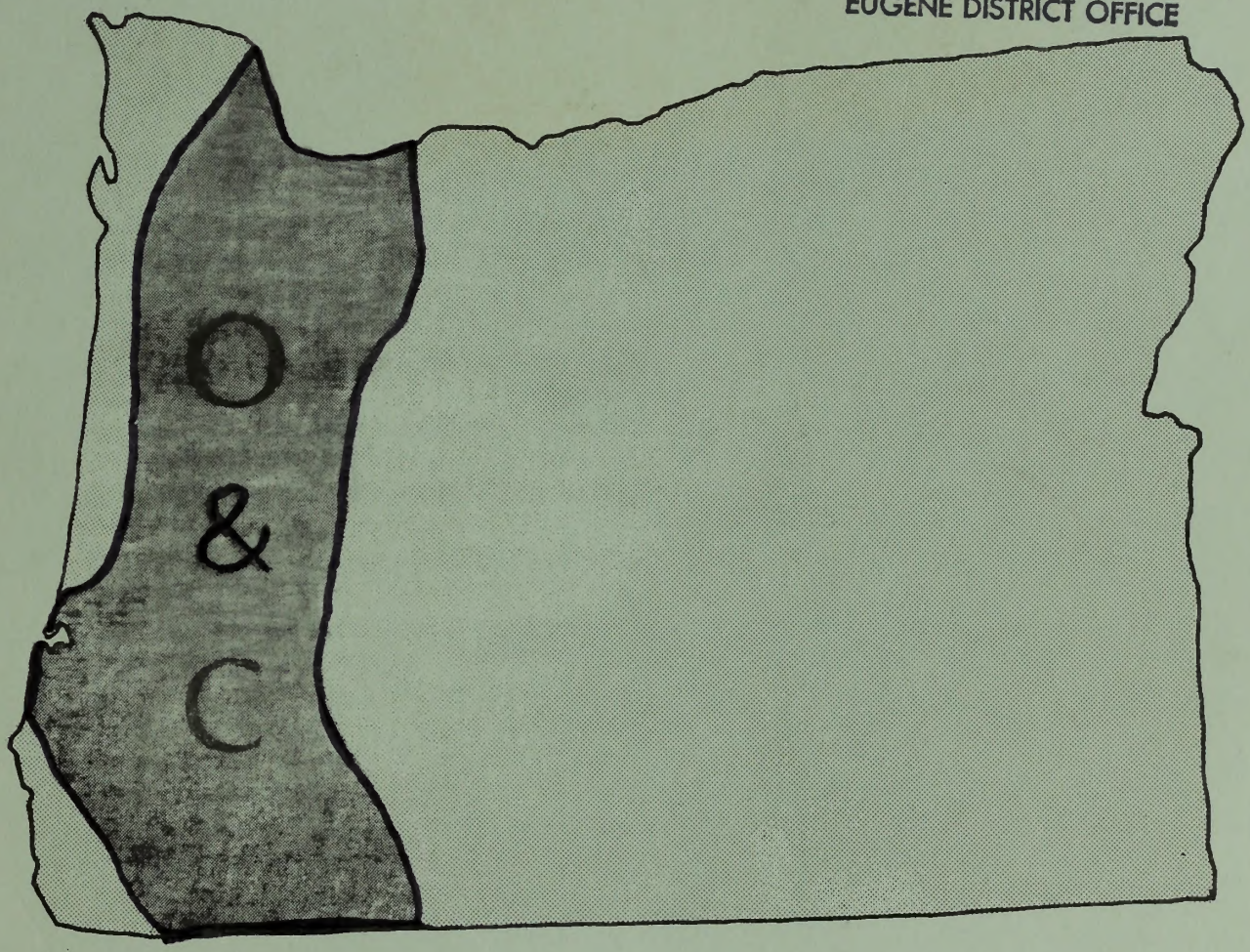

United States Department of the Interior
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WESTERN OREGON ROAD STUDY

MAY 1973

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SUMMARY STATEMENT

The Oregon State Director charged Arthur W. Zimmerman, Associate State Director, with the responsibility of making an in-depth study of the western Oregon road program. This report describes the results of that study. It does not go into great depth to describe existing methodology in the road program (other studies have done this and the committee spent a great deal of time reviewing these); rather, this report identifies problems in the program, recommends solutions to those problems, and offers a plan of implementation.

The committee was composed of the following:

Planning and Programming Subcommittee

Herb Haglund, Chairman, OSO

Glen Carte, OSO

Jack Schutte, Coos Bay District

Jim Anderson, Medford District

Operations and Maintenance Subcommittee

Richard Schlacter, Chairman, OSO

Byron Thomas, OSO

Gary Gebhart, Salem District

Richard Marl, Eugene District

SUMMARY STATEMENT

The Oregon State Director, Charles Arthur W. Zimmerman, Associate State Director, notes the recommendability of making an in-depth study of the western Oregon road program. This report describes the results of that study. It does not go into great depth to describe existing methodology in the road program (other studies have done this and the committee found a great deal of time reviewing these); rather, this report identifies problems in the program, recommends solutions to these problems, and offers a plan of implementation.

The committee was composed of the following:

Planning and Programming Subcommittee

Mark Hagland, Chairman, OSD

Glen Yates, OSD

Earl Roberts, Coos Bay District

Lee Anderson, Medford District

Operations and Maintenance Subcommittee

Richard Schlender, Chairman, OSD

Byron Jones, OSD

Gary Lockard, Salem District

Richard Hart, Eugene District

Administration Subcommittee

Arthur Zimmerman, Chairman, OSO

Roger Dierking, OSO

Jack Mears, Salem District

Stewart Avery, Roseburg District

Jim Hart, Eugene District

Special advisory work was done by Jack Lorts, George Hartman and Raymond Johnsen, PSC; Ronald Cole, OSO; Div. of Financial Management, DSC; and Office of the Regional Solicitor, Portland.

The Introduction of the report relates that the purpose of the study is two-fold:

1. To identify the problems
2. To seek to solve the problems in a reasonable period of time

It further describes that the study was divided into three work groups--planning and programming, operations and administration.

Many illustrations and charts are included to show that western Oregon has a road program of considerable magnitude. It includes a road net of over 8,000 miles (more than some western State's highway systems) and a capital investment of over $300 million.

The Planning and Programming section notes that the transportation plan is little more than an inventory and does not represent good

Administrative Committee

Arthur Lindsay, Chairman, DOT

Roger Dearing, DOT

Jack Deere, Sales Director

Stanley Lowry, Sales Director

Jim Kent, Leasing Director

Special advisory work was done by Jack Torres, Lounge Furniture and Vincent Johnson, Sign Manufacturing, Inc., at financial Management, DOT and Office of the Regional Solicitor, Portland.

The [illegible] of the report relates that the purpose of the study is two-fold:

1. To identify the problem.

2. To seek to solve the problem in a reasonable period of time.

It further indicates that the study was divided into three work areas--marketing and merchandising, operations and administration.

Many illustrations and charts are included to show that western Oregon has a rich concept of outstanding magnitude. It includes a vast net of over 5,000 miles (more than some Western State's highway systems) and a capital investment of over $300 million.

The Planning and Management Section notes that the transportation plan is fluid and is not in conformity and does not represent good

planning when considering all resources and their needs. It recognizes that the transportation plan must be directly tied into the Bureau planning system. There is a lack of coordination in this regard and a planning position must be identified in each district. A need for updating the 9110 Manual is noted as well as the need to revise Manual 1601-1608 to bridge the gap between planning and programming for road construction and maintenance. The need to review our road funding procedures is discussed and the trend of using O&C Grant Funds for other than its intended purpose (capital improvement) is shown. In 1964, 81% of the O&C funds was devoted to road construction and maintenance and in FY 1973, only 41% of such monies went toward investment in the road program.

The Operations section reviews road construction, road maintenance and manpower requirements. It notes that engineering expertise below the district staff level is not identified in the organization and that there is a lack of logging systems expertise at the state and district level. A strong recommendation is made to add greater emphasis in developing this expertise. There is a lack of quality control on timber sale road construction. It is recommended that road locators and designers be allowed to follow through with review during the road construction phase, that timber sale roads be slope staked and that contract administrators be on the site during all phases of road construction.

planning when considering all resources and their needs. It recommends that the transportation plan must be directly tied into the budget planning system. There is a lack of coordination in this region and a planning mechanism must be identified in each district. A need for monitoring the ship channel is noted as well as the need to revise Manual Instructions to provide the gas backbone planning and programming for road construction and maintenance. The need to review our road funding procedures is discussed and the impact of using the Grant Funds for other than its intended purpose (capital improvements) is shown. In 1984, 81% of the TDA funds were diverted to road construction and maintenance and in 1985, only 41% of such funds were used toward improvement in the road program.

The investigation section reviews road construction, road maintenance and maintenance contracting. It notes that emphasis is currently being placed on the statewide state trunk is not identified in the prioritization and that there is a lack of longer range planning at the state and district level. It is also recommended to move in and develop methods in developing this plan. There is a lack of monitoring contract or state road construction. It is recommended that road inventory and data be allowed to relate through state reviews during the road construction process, that district data reports be stated and that contract inspection reports be on the site during all phases of road construction.

The need for input by staff specialists other than engineering is recognized when decisions on road adequacy, road standards and road location are made. Also the need for BLM resource personnel to adequately define the facilities needed when requesting road construction. Defining the facilities is recognized as a continuing educational process with FHWA since they are normally geared toward designing and constructing roads which often exceed BLM standards.

A decision to make a detailed study of FHWA maintenance of BLM roads and/or whether the FHWA maintenance program should be continued should be made next year, FY 1974.

It is recommended that maintenance fees for use of BLM roads under timber sale contracts be specified as a lump sum amount and such payments be made in advance which would allow hauling of the BLM timber any direction the purchaser may desire. The use of mileage would be discontinued when specifying the rate or amount of maintenance payment due in timber sale contracts.

More temporary roads or means of closing or abandoning roads must be adopted to lessen the maintenance burden.

<u>The Road Administration</u> section deals with right-of-way agreements and permits, property and capitalization records, road inventory and those activities necessary to manage the road program. Development of the present system, past studies and program authorities are

the need for input by road specialists other than engineers is recognized when decisions on road adequacy, road standards and road improvements are made. Also, the need for BLM personnel competent to adequately define the facilities needed when requesting road construction, including the facilities to recognize as a continuing educational process why roads are built where they are normally placed towards developing and constructing roads which often exceed BLM standards.

A decision to make a detailed study of FHWA maintenance of BLM roads and/or monitor the FHWA maintenance program should be continued should be made next year, by 1974.

It is recommended that maintenance fees for use of BLM roads under timber sale contracts be specified as a lump sum amount and such deposits be made in advance which would allow hauling of the BLM timber and eliminate the cumbersome mileage data. The use of mileage would be discontinued when specifying the rate or amount of maintenance payment due in timber sale contracts.

Both temporary roads on means of closing or abandoning roads must be solved to lessen the maintenance burden.

The Road Administration section deals with right-of-way applications and permits, property and consolidation of road inventory and those activities necessary to manage the road program. Development of the present system, cost studies and program authorities are

presented. The goals of this section are to assess current and future administrative requirements, review the present system, recognize inherent problems, and make recommendations to resolve those problems, and offer a plan of implementation.

A set of definitions is developed to combat problems with terminology.

Major problems identified are road records, inventory and capitalization records and procedures, manpower and costs and right-of-way permits and agreements.

Predictions are set forth for future trends and needs and a criteria is established for a future system to meet these needs.

The problem of high road use fees and the method of arriving at a fee are thoroughly discussed and all the possibilities for resolving these problems are discussed, analyzed and weighed. It is recommended that an average fee by road class be established for western Oregon. This fee would be applicable to all future timber hauling permits. Also, it is recommended that this standard fee be incorporated into all existing agreements and permits upon approval of BLM and the permittee. The existing allocation procedure must be modified to allow additional separable costs and more latitude in assigning points for uses other than timber hauling. The allocation procedure must be made retroactive for permits issued prior to May 14, 1963, in which the road use fee for any given road has not had a final determination.

It is recommended that an average fee be used for all new timber hauling permits, and that the average fee be used to determine a lump-sum payment when $100 or less is to be collected. Permits issued for hauling of mineral products and minor forest products will require a basic fee of $5 per mile or fraction thereof per year.

Other recommendations include encouragement of swapping-out deficient shares under agreements and permits, redrafting of 2812 regulations to incorporate environmental considerations, authority for granting of easements across natural resource lands and authority to transfer road control to local governments.

WESTERN OREGON ROAD PROGRAM REVIEW

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   a. Recommendations

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Introduction

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WESTERN OREGON ROAD PROGRAM REVIEW

I. Introduction

The Bureau of Land Management is charged with the management of certain natural resource lands in the States of Oregon and Washington. A key factor to the successful management of these lands for the goods and benefits produced therefrom is an adequate transportation system. On June 21, 1971, the Oregon State Director appointed a committee to review the Bureau of Land Management road program in western Oregon. [I.M. Ore. 71-271]

A. Purpose of Study

Problems associated with providing an adequate transportation system are many. The nature of these problems cuts across all aspects of the program. Due to the nature and complexity of the western Oregon road program, an in-depth study was needed. Hence, the purpose of this study is two-fold: (1) to identify in a comprehensive manner the problems associated with this road program, and (2) to seek to solve such problems within a reasonable period of time.

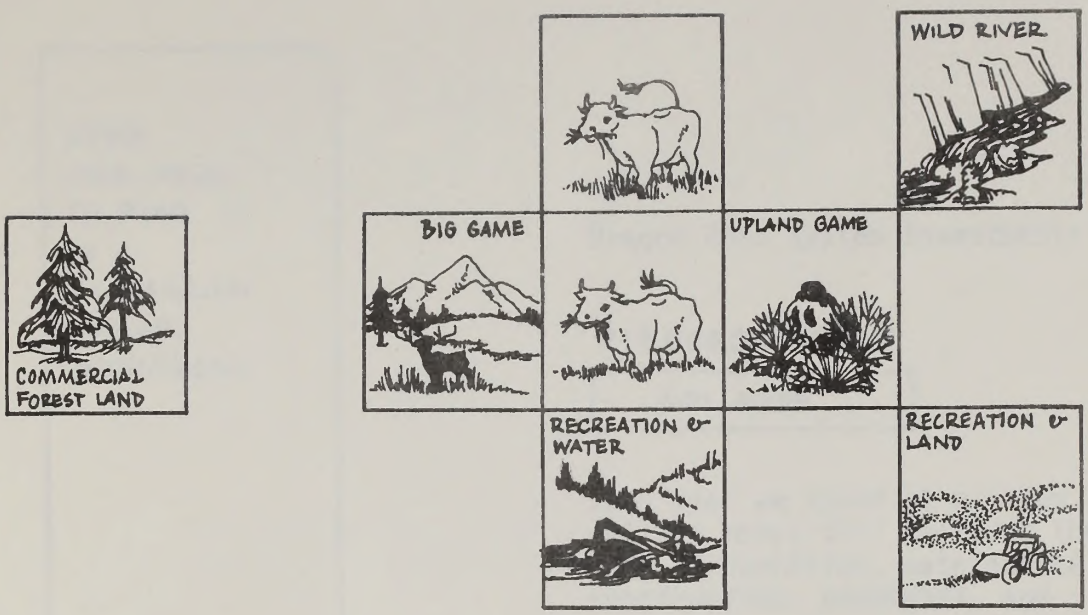
B. Organization of the Study

The road program review committee met jointly and developed a comprehensive list of problems associated with the road program. The identified problems were classified into the following three categories: (1) planning and programming, (2) operations, and (3) administration. A subcommittee was appointed to study each of the

three categories. Each subcommittee acted independently in seeking information, analyzing problems and making recommendations. The subcommittee findings and reports were brought before the entire committee for review and concurrence prior to preparation of the final report.

C. Magnitude of Road Program

The road program in western Oregon has developed a high-quality, well-integrated road system which forms the backbone of the multiple use program. To illustrate the size of the road program and its impact on the total program, the following graphics have been prepared. In review of these figures it must be remembered that they are the best figures available and that their intended purpose is to illustrate the size and complexity of the program.



About 2.4 million acres of public land managed by BLM in western Oregon for many resources.

The operation and management of the western Oregon road system is a necessary tool for the management of the natural resource lands.

From the commercial timber lands in western Oregon, some 1,172 MM bd. ft. of timber is offered for sale annually. A BLM road system of over 8,000 miles involving a capital investment in excess of $300,000,000 has been developed to manage the western Oregon lands. The road system also serves 75 recreation sites, provides access for extensive recreation use, range and watershed management and protection for the many resources. The road system is about 60 percent complete. The input from many skills is necessary to assure that the road development and operation does not unnecessarily degrade the environment.

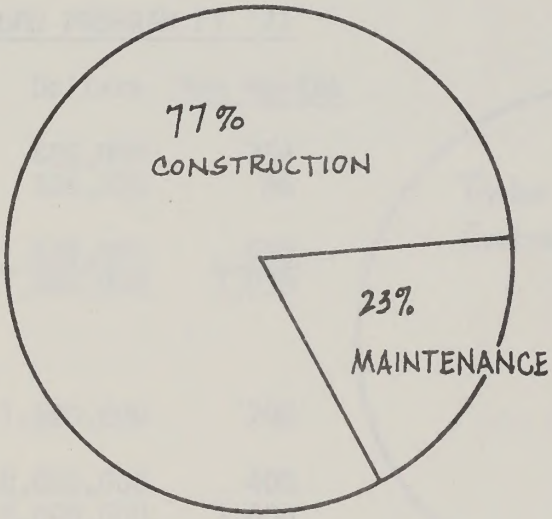
OVER
8000 MILES
OF ROAD
IS A
300 MILLION
DOLLAR
INVESTMENT

Oregon Road System Investments

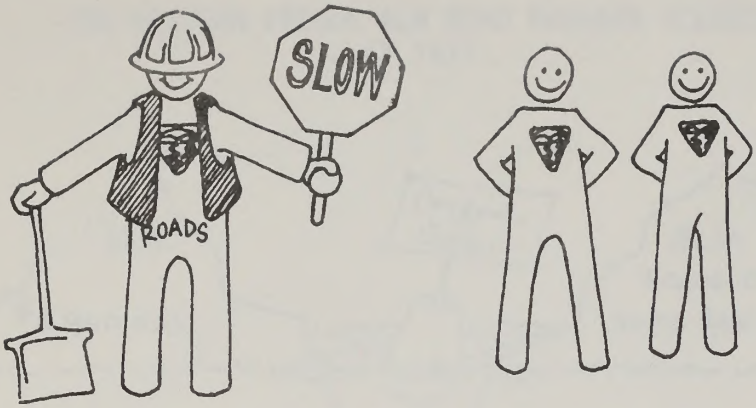
$14,000,000 YEARLY

500 MILES

Each year we spend 14 million dollars more; this includes the cost of operation, maintenance construction, easements, and acquisition of existing roads.



Relation of construction to maintenance FY 1971



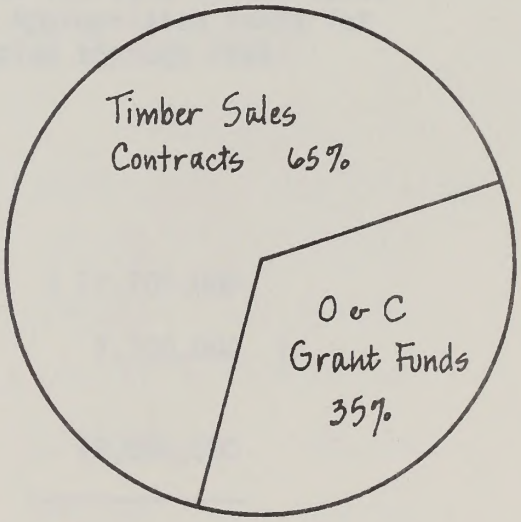
One out of every three people in western Oregon is involved in the road program

WESTERN OREGON ROAD PROGRAM FY '71

BLM	Dollars	Man Months
5110	886,000	354
5310	336,000	96
1230-5230 WJC 7000's	638,000	580
	1,860,000	1,030
FHWA		
Contracts Adm.	1,200,000	700
Contracts, Sur. & Design	8,000,000	400
Maintenance	2,800,000	1,000
	12,000,000	2,100

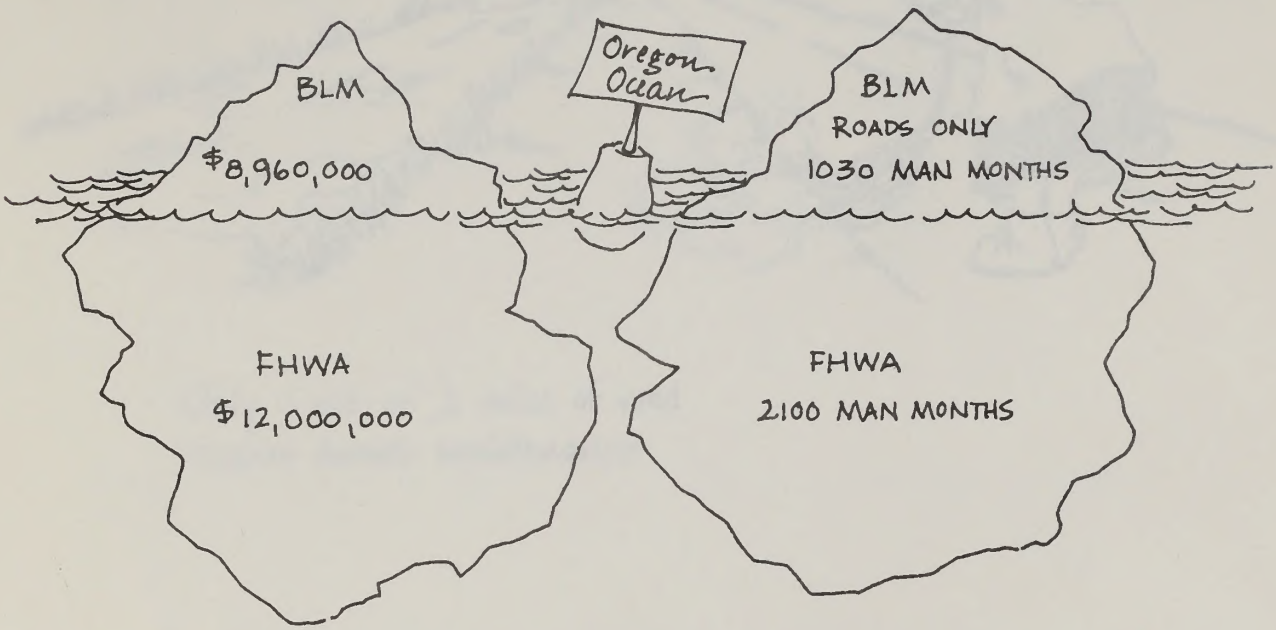
Total: $13,860,000 - 3,130 MM

or 310 positions



Sources of road construction funding (300 million dollar investment).

THE WESTERN OREGON BLM ROAD PROGRAM ICEBERGS!
FY 1971



Not all funding for the road program is included in the State Director's AWP and operating budget. Appropriated funds for construction and maintenance are funneled through FHWA.

FY 1971

Total BLM, Western Oregon Operating Budget	$ 12,700,000	
Timber Sale Road Const.	7,100,000	1/
FHWA - Budget for Construction, Design & Maintenance	12,000,000	
	$ 31,800,000	

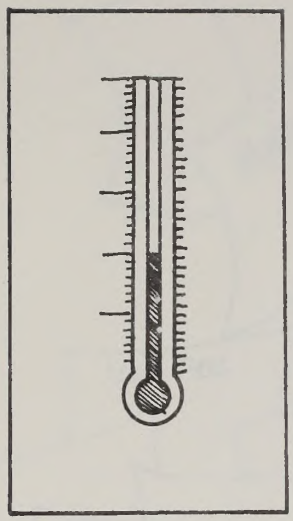
1/ Timber sale allowance

Only 1 out of 2 miles of road receives annual maintenance.

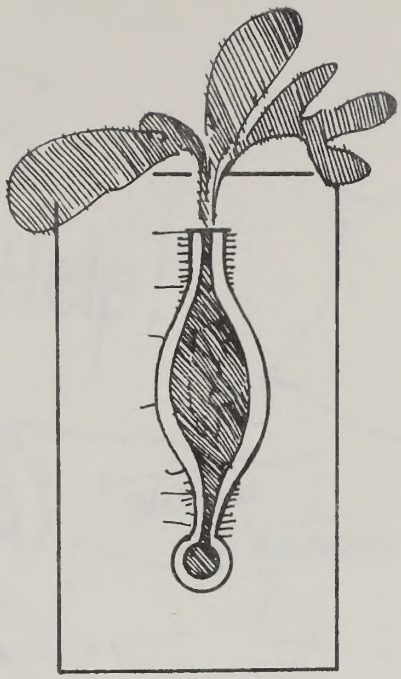
MAINTENANCE OF THE WESTERN OREGON ROAD SYSTEM

FY	Total Miles of Road	Miles Maintained by FHWA*	Collections	
			Maintenance Fees	Road Use Fees
1967	6,010	2,345	870,500	493,067
1968	6,362	2,804	1,155,251	584,745
1969	6,711	3,048	1,333,251	808,464
1970	7,290	3,177	845,743	598,025
1971	7,806	3,855	902,584	380,460
1972	8,175	3,444	1,062,841	513,155

* Approx. 500 miles of road are maintained by other means, i.e., timber sale contracts, R/W Agreements, etc.



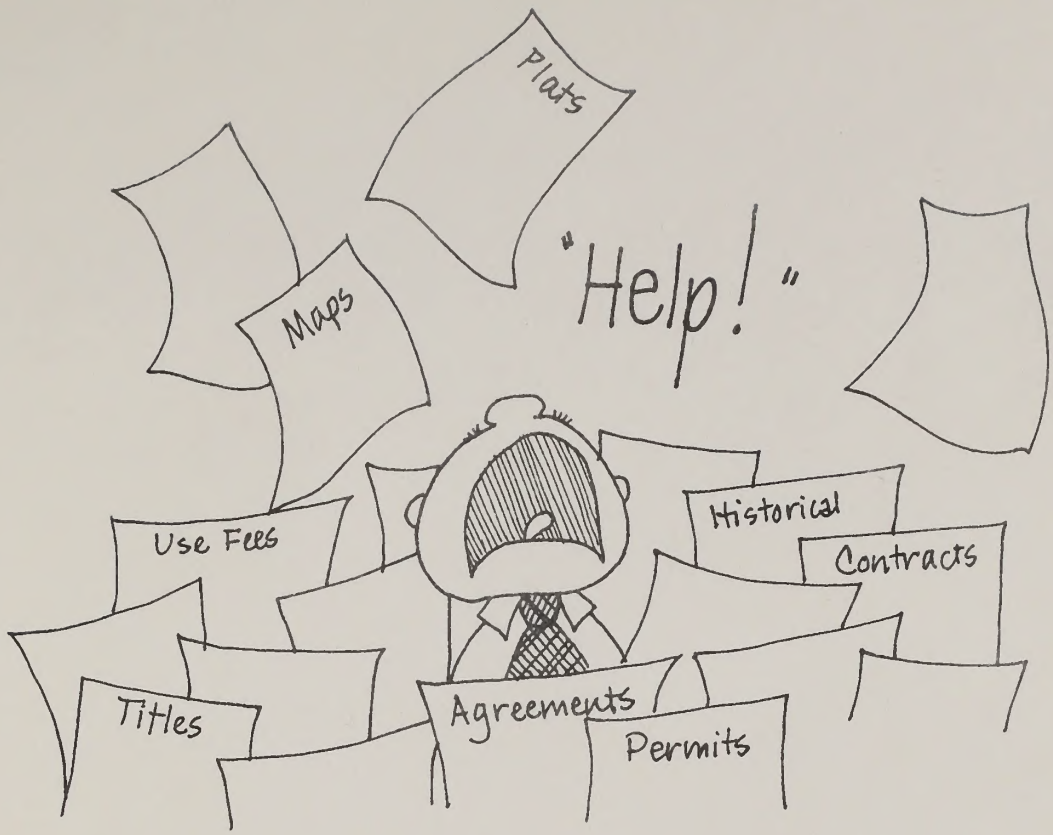
$865,000 COST IN 1964



$2,678,000 COST IN 1972

WESTERN OREGON MAINTENANCE OF BLM ROADS BY FHWA

FY	Miles	Cost 1000's	Cost Per Mile
1964	1,420	$ 865	$ 602
1965	1,647	750	455
1966	1,719	1,000	581
1967	2,345	1,400	597
1968	2,804	1,717	613
1969	3,048	1,701	559
1970	3,177	2,065	650
1971	3,855	2,220	576
1972	3,444	2,678	778



The checkerboard land pattern in western Oregon has caused BLM to enter into 900 road use agreements with private industry. Some 300 use permits are issued each year. About $160,000 per year is spent for manpower to administer the road system. 1/ The road use agreements cover 90% of the western Oregon lands. Most of the agreements do not provide access for the general public.

Detailed records for over 22,000 individual road segments are being kept to establish road use fees and service road use agreements. Records generally fall into these groupings: Agreements, permits, fiscal (capitalization-amortization-maintenance-general accounting), historical records (easements), legal, maps, plats and planning.

1/ See Department of Interior Audit, April 1970.

Planning & Programing

II. Planning and Programming

When considering planning and programming for the western Oregon road program it is necessary to consider the following objectives:

- Plan for development and maintenance of a road system to serve public and private timber lands.
- Plan to provide a road system which will provide equal opportunity for bidding on BLM timber.
- Provide public access where appropriate.
- Plan a road system which will cause the least environmental degradation.

The following is a short summary of Section 1603.12J of the BLM Manual (1603 Supplemental Guidance) pertaining to BLM policy.

> The roads and trails are an integral part of the lands and resource activities. They have value only for the benefits derived from the increased efficiency in the output of goods and services from public land resources and the increased safety and enjoyment of the public. Roads shall be constructed and managed in a manner consistent with the protection, enhancement and development of a quality environment.

A. Planning

During the 1940's and early 1950's, BLM timber offered for sale was that with easy access. Roads were constructed mainly where the logger wanted them and planning was primarily for a single use--timber harvest. Emphasis was on the selection of the most economical way of getting the timber to the market. The criteria for road location were: ease of construction, economy in logging and hauling costs, and existing access. Most of the roads were constructed and

controlled by the intermingled private land owners and under operating procedures of the time. BLM did not have legal rights to use these roads across private lands.

The value of the western Oregon lands was recognized in the early 1950's and plans were initiated for intensive forest management. Comprehensive planning, major access road construction, easement acquisition, and long term right-of-way agreements with private land owners were emphasized. BLM began to do more road engineering and to construct roads to a higher standard. This trend continued until many began to feel that some roads were being constructed to a higher standard than necessary or desirable.

Since 1955, the planning function has oscillated between periods of intense concentration and periods of inactivity. Planning is emphasized until planning and access appear adequate for the immediate needs, then the planning activity tends to lose its importance. Throughout this period the emphasis in planning and operations has been toward timber management and has not always included a consideration of all other resource activities and protection of the environment. Current management has inherited a road system which may not meet the needs of all today's resource activities and which does not always protect the environment.

The reports, Review of Timber-Access Road Accounting Procedures by Department of Interior Office of Survey and Review, Audit Operations dated April 1970 and the Western Oregon District

Organization Study of November 1970, each made references to the inadequate planning, and the lack of necessary manpower to provide a sound planning base upon which to develop transportation plans and streamline record management procedures.

The Bureau planning system provides a vehicle for determining the transportation system needed for multiple resource management and environmental protection. In the Bureau planning system, transportation is a support activity vital to all other activities.

Findings and Recommendations

As a result of its analysis of road planning, the study committee reports the following findings and recommendations.

1. The transportation plan as it exists today is little more than a transportation inventory. This inventory needs to be developed into a transportation plan that will meet the needs of all resource activities as well as protect the environment as identified through the Bureau planning system process. It is only after all resource activity plans are made that we can fully identify our needs in the transportation system planning. Also, as resource activity plans change, there is a need to re-evaluate other needs in transportation planning. This criteria applies to our existing road systems as well as future systems.

2. Contributing to the situations (or problems) identified in the 1970 audit is an organizational structure which lacks a specific full time position responsible for planning at the district

level. Districts are responsible for basic planning but do not have a position in which the primary duty is one of coordinating planning efforts. This directly affects the identification of priority actions and the subsequent programming. The development of the transportation planning must be directly tied to the Bureau planning system and resulting activity plans. Therefore, it is imperative that planning efforts be effectively coordinated. The manpower required for effective planning will vary widely between areas. Therefore, we recommend that each organizational level analyze the planning functions and identify the skills, manpower, and funding needed to fully implement the Bureau planning system including the development of activity plans and support activities such as transportation plans. And, finally, that each organizational level provide the emphasis needed to do the planning job which may include a full time planning coordinator at each organizational level.

3. The BLM Manual 9110, Roads, Trails, and Landing Fields, was developed in the mid and late 1960's. This was prior to full implementation of our present planning system. Section 9111.05B defines the transportation planning system as:

> "....an inventory and estimate of all existing and planned transportation facilities necessary for the development, protection, administration, and utilization of lands and resources within the public lands. The transportation plan consists of maps and supporting inventory data prepared for each state."

In western Oregon the transportation plan has been developed only to the extent that (1) maps have been prepared showing existing and

future roads, and (2) an inventory of these roads is recorded on Form 9110-1, Inventory Record - Roads and Trails. If western Oregon roads were financed by the Federal Aid Highway Act, this barely accommodates a stated objective in Manual 9110 of meeting the legal requirements for programming road construction and maintenance. The method of bridging from resource activity plans to plans for support activities and multi-discipline programs and multi-year programs is not clearly defined or illustrated.

The review team recommends that BLM Manual 9110 be updated so that it effectively complements the Bureau planning system and is in harmony with instructions in Section 1600. The team further recommends that BLM Manual 1601-1608 be revised to illustrate methods of bridging from resource activity plans to support activity plans and the resulting programs for resource management.

B. Programming

Road programming is the term applied to the process which schedules the construction of a road (or other transportation facility) that planning has determined to be necessary for the proper development or utilization of one or more of the varied resources. Construction of the road may be carried out by expenditure of appropriated funds through a road construction contract or by a timber sale purchaser pursuant to the terms and conditions of a timber sale contract. Road programming requires the allocation of manpower or dollars or both within the framework of time to accomplish the objective of the plan.

Findings and Recommendations

In an analysis of the road programming function, the study committee reported the following findings and recommendations related to this function:

1. Inadequate planning which fails to evaluate total resource program needs has resulted in premature commitments to a course of action. For example, a timber activity plan which fails to recognize recreation potential in the same area may result in the construction of a transportation facility inadequate to meet total resource needs. Another example is a road constructed under permit by private parties which may not serve the total resource needs on BLM or private lands. It is the opinion of the study committee that premature commitments to a given course of action can be avoided by more comprehensive planning. The Bureau planning system provides an excellent vehicle for comprehensive land management planning, and by diligent application of the system, the problems of premature commitment will be minimized.

2. There exist some causes beyond the control of the Bureau (such as executive direction, Congressional direction, pressures from user groups, and natural phenomenon) that have forced the abandonment of plans with the consequence that the programming effort has been redirected. The Bureau may be able to minimize such impacts through better planning and identification of priorities.

3. For roads constructed under timber sale contracts there have been relatively few problems in establishing priorities because the decisions are made at the district level. Insufficient funding for access road projects has required the State Office to establish priorities between projects and districts. This has not always resulted in the proper ranking of projects which provided the greatest benefits to the resource program. The study committee recommends the use of the multi-disciplinary review in establishing priorities at both the district and state levels. The final selection of priorities or change in priorities should be made after consultation between district and State Office personnel.

4. Each year since 1952, the O&C Counties of western Oregon have voluntarily released to the BLM for investment in the development of the O&C lands one-third of the receipts, that they were entitled to by law, from the sale of timber from the O&C lands. In the early years of this development program the bulk of this money was expended for the construction of roads. Later, forest development and recreation construction were added to the list of development activities. More recently, other activities, such as timber management and fire protection have been paid in whole or in part out of the O&C Grant funds. The result of the funding of additional activities from the O&C Grant funds has been the general diminution of appropriated funds available for road construction and maintenance. Today, the road construction program operates on

"left-overs" after other programs are funded. This balance is substantially below levels needed to carry out the planned program. In addition, the present road maintenance program has evolved under the objective that we maintain all permanent roads, yet we are capable of maintaining less than 50% of these roads. The miles of new road constructed each year exceeds that which can be added to the maintenance program. This results in a loss of capital investment. The O&C Grant fund provides a partial source of funds for road maintenance. Other sources of funds for road maintenance are maintenance and rockwear fees charged licensees and permittees. These sources provide a relatively stable but insufficient source of revenue. With the mileage of roads and maintenance costs increasing each year, it is essential to increase the funding to a level commensurate with the maintenance job. The trend in allocation of the O&C Grant funds is shown by comparing Fiscal Years 1964 and 1973.

	F.Y. 1964	
Road Construction	$ 6,573,000	74% of total
Road Maintenance	600,000	7% of total
All other allocations	1,491,000	19% of total
	F.Y. 1973	
Road Construction	$ 4,700,000	29% of total
Road Maintenance	1,960,000	12% of total
All other allocations	9,540,000	59% of total

"left-overs" after other programs are funded. This balance is substantially below levels needed to carry out the planned program. In addition, the present road maintenance program has evolved under the objective that no maintenance is deferred. Yet, we are capable of maintaining less than 50% of these roads. The miles of new road constructed each year exceeds that which can be added to the maintenance program. This results in a net of [illegible] miles. The GMC grant fund provides a partial source of funds for road maintenance. Other sources of funds for road maintenance are maintenance fees charged timbermen and recreationers. These sources provide a relatively steady but insufficient amount of revenue. Only the mileage of road for maintenance costs, including work done, is annually in increase by adding on a level comparable year to the maintenance job. The trend in allocation of the GMC grant funds is shown by comparing Fiscal Years 1969 and 1970.

	F.Y. 1969	
Road Construction	$ [illegible]	[illegible] % of total
Road Maintenance	[illegible]	[illegible] % of total
All other allocations	[illegible]	[illegible] % of total

	F.Y. 1970	
Road Construction	$ [illegible]	[illegible] % of total
Road Maintenance	[illegible]	[illegible] % of total
All other allocations	[illegible]	[illegible] % of total

The effect of this shift in funding from roads to other activities has been particularly disruptive to the operation of an efficient and effective road construction and maintenance program. It is the recommendation of the study committee that (a) O&C Grant funds be allocated and used for their intended purpose, capital investment, and that other activities such as salaries for forest management be financed from funds appropriated for Management of Lands and Resources (MLR); and that (b) the feasibility of funding road construction in western Oregon from funds appropriated for Public Land, Road and Trail Development (3100) be evaluated.

Operations

III. Operations

A. Background and General Comments

The operations section of this report reviews road construction, road maintenance, and manpower requirements. Because the operation of the road program is affected by many conditions and problems which are not a specific part of the road program, a brief review of some of these problems precedes the discussion of road program operations.

When planning the development of an area, the selection of the logging system has a tremendous impact on the amount and type of road construction required; however, a review of the two year timber sale plans (FY 71 and 72) revealed that road planning was often on a sale by sale basis. Other uses such as recreation, administration, fire protection, etc., must also be considered in the development planning.

The present western Oregon district organization does not recognize planning or engineering as specific functions below the staff level. Most of the personnel engaged in these functions are foresters or technicians who have little background in these fields. By the time they have accumulated sufficient on-the-job experience and training to be proficient in these fields, many wish to change assignments to broaden their backgrounds. This helps to develop people with a broad background but it creates a constant turnover and limits the development of expertise. Engineering review and

supervision of planning and road location, selection of road standard, design, appraisal, construction engineering, and contract administration are sometimes lacking.

The standard of road to be constructed is developed from basic data which defines the intended use of that particular road. Basic data is developed from sound activity plans. Road standards will continue to vary considerably until sound activity and the subsequent transportation plans are completed. The BLM Manual 9110 provides the technical and engineering data for a wide range of road standards based on the need for a road. Actually the BLM does not have a "standard" road. The basic problem, when roads have been purposely constructed to a higher standard than necessary, is the lack of adequate planning and construction supervision. This statement was endorsed by Salem and Eugene district personnel performing road location and design during a one-day visit to these districts.

It is strongly recommended that a greater emphasis be placed on the development of expertise in the fields of logging systems and road engineering. This will require the selection and development of qualified personnel to provide specialized assistance and training to district field personnel. This will enable the districts to give proper consideration to both economic and environmental factors in developing logging and transportation plans.

The State Office should have one position designated as the logging system specialist. The purpose of this position would

be to assure expertise in present and future logging systems. The "Western Oregon District Organization Study" of November 1970 recommends that all functional skills should be represented on the district staff and in line organization if the workload justifies. This recommendation is strongly endorsed.

This report now moves to specified problems related to the operation of the road program and action in progress or recommendations toward solution of these problem areas.

B. Timber Sale Roads - Problems

1. Control on Construction

Construction control needs to be improved to assure that construction is limited to the amount and type desired and that environmental damage is minimized. A two-day visit to several districts revealed that from their viewpoint the majority of excess excavation was caused by operators starting behind slope stakes to assure that they would not be required to bring equipment back to widen narrow sections.

Most road locators and designers spend very little time reviewing construction. Production demands sometimes preclude the designer from performing construction details such as slope staking and contract administration. Some designers have never followed a project through to completion. In such cases, the individual does not learn by identifying errors in design. In addition, road designers must be better informed of acceptable limits to enable

them to adjust both standards and design features when the benefits do not warrant the impacts.

The quality and quantity of inspection are not adequate to assure compliance and control of construction as specified by existing construction stipulations. New contract stipulations are being formulated to provide environmental protection and safeguards; administration of these will require additional trained and experienced inspectors.

Recommendations

a. Provide the experienced manpower needed to perform adequate timber sale road design, construction engineering and inspection.

(1) Road designers shall return to the field to observe actual construction on roads they design. This review should be a learning process with errors or chances for improvement noted and applied toward more informed design of roads. Staff engineer should coordinate, review, and direct this function to develop a cadre of qualified designers in the district.

(2) Where necessary roads constructed under timber sales on BLM lands will be sloped staked to assure minimum surface disturbance.

(3) Road inspectors should be on the site during all phases of road construction with emphasis on supervision during periods of critical earth removal and installation of drainage

facilities. The compaction of sub-grades will be closely supervised and measured. Each lift of rock will be measured to assure full volume allowances, and each lift will be spread to achieve the depth and width required.

b. Establish the organizational continuity, as previously mentioned, to assure control of construction of the facility required for the resources. Engineer positions required for construction activities should be established and identified in the organization. The district engineer as the staff technical specialist should operate in the area of engineering as the district cruiser/appraiser now operates in the area of timber appraisal; specifically the district engineer should be responsible for reviewing performance, training and approving individuals performing in the areas of road survey, design, appraisal, and construction engineering and coordination with other staff specialists.

c. Establish criteria for determining what is an adequate road and determine how to construct it. The concept of the words "road standard" has not communicated the same concepts to land manager and engineer. The term "adequate" facility or road to meet resource management goals should be used for conceptual purposes. An "adequate road" is defined as a properly located, designed, and constructed road of minimum width and surface disturbance which will accommodate traffic and equipment in a safe manner for the planned use. Traffic control measures such as gating, signing, or otherwise

restricting use should be extensively utilized to insure safety in lieu of wider roads, straighter alignment, and sustained grades.

Decisions pertaining to determination of road adequacy, road location and design, and environmental impacts should result from at least the combined input of timber or resource manager (or land manager) and engineer in conjunction with other staff specialists as needed for the project.

Items which must be considered are as follows:

(1) Road Use

(a) Type of access involved, condition and ownership of roads leading up to planned road. Confirmation that the private interests will improve or agree with Bureau improvement of existing roads.

(b) Volume of timber to be hauled.

(c) Plans for future management of public and private resources.

(d) Problems of maintenance of road when not in use.

(e) Simultaneous timber sales using same road.

(f) Possibility of developing a lower class road to restrict or reduce public use.

(2) Road Location and Design

Consider the potential for mass soil movement. Comprehensive guidelines are now being published in BLM's Guide to Reduce Road Failures in Western Oregon. These guidelines will provide guidance to identify potential landslides as well as techniques to prevent landslides if a road must traverse an unstable area.

Consult the URA erosion hazard overlay for rating. Precautions against surface erosion on road cuts and fills need to be more extensive for those areas designated severe than for areas having a slight or moderate rating.

The road designer, timber manager, and required staff specialists must make a joint inspection of each road location and design to assure it conforms to road adequacy criteria. An inspection should also be performed of the road "as constructed" to determine if finished product is that which was originally conceptualized. The strong and weak points of the location, survey, design and construction should be recorded. The cause of the weak points should be recorded and submitted to the area manager. It is then the district's administrative responsibility to take the necessary corrective measures to eliminate errors in location, design, construction administration, and construction on future projects.

Items to be considered in road location and design with respect to wildlife are big game winter ranges, escape cover adjacent

to roads, migration routes and local animal movement, breeding, nesting or "birth" areas or other areas of seasonal concentrations. Special emphasis must be placed on rare and endangered species habitat. Care should be exercised to use unpalatable vegetative species for erosion control adjacent to the main roads while using palatable species on timber sale and skid roads.

Items to be considered for protection for fisheries and water quality which are not covered above are bridge locations, rechannelization, proper culvert size and installation, stream crossings, and buffer or filter strips.

(3) Environmental Impact

Items for consideration are covered in BLM's "Timber Management, a Programmatic Environmental Impact Statement". Oregon State Office supplement to BLM Manual 7415 Stabilization also contains environmental guidelines.

2. Contract Specifications

The approved standard road specifications for timber sale construction need to be revised and expanded to provide greater latitude at district level for control of construction and environmental protection.

Recommendation

State Office intensify efforts to complete the preparation of above stipulations, required reviews, and issue same to districts.

C. Access Road Program

FHWA is not supervising as much road construction as in the past, but it is still a significant program. The basic problem has been that FHWA personnel are trained to build highways, and often construct a higher standard of road than needed to support timber harvesting and other related uses. Also, for a period of time the attitude of FHWA was that the access road program was a charge of the FHWA since the appropriations are specifically made to their organization. Meetings of FHWA and BLM have resolved this problem, and projects are now conforming to standards as specified by the Bureau. District offices do not always define the facility needed, and at times FHWA has taken the lead to design the road when information has been lacking. In such cases the result has often been unsatisfactory and required redesign after a district field review. Good long-range development and supporting transportation plans followed by intensive route reconnaissance would eliminate this problem. However, this area has been improved in the last few years by spelling out more specific design data in the field letter to FHWA which authorizes the project survey. Further efforts must be made in contract preparation to assure it provides controls to produce the designed road agreed upon.

Construction of forest development roads for thinning second-growth stands has been identified as a need in the access road program. Since the economic return is limited, the investment

in road design and construction must be in balance. Several methods of constructing these types of roads have been used in the past few years, and it is felt the Bureau and FHWA are making good progress in this particular area.

D. Manpower

As previously stated, there is a serious shortage of manpower to adequately plan a transportation system and to subsequently locate, design, and implement the construction of these facilities. In order to quantify present manpower utilization and to identify the manpower needed to perform this task as demanded under the present expanded environmental concerns, the committee requested each western Oregon district to point out problems and manpower requirements. Meetings were held in several district offices to review and obtain field personnel viewpoints and attitudes relative to this specific phase of work. A two-day session was held in late June to coordinate district manpower reports. One point continually surfaced throughout all discussions, reviews, etc., of the road program, and upon which there was common agreement. The best assurance to minimize environmental impact caused from road construction was to provide complete engineering including planning, reconnaissance, location, design and construction supervision. BLM can either gamble with its present system or provide sufficient manpower to do the total job. Additional detail in support of the above comments follows.

More intensive management practices, environmental considerations, public concern toward forest practices, new laws and regulations, puts the BLM in the public land management spotlight. Clear cut areas grow back, scars left from poor road locations, design or construction practices, remain.

Road engineers should be completely knowledgeable of development plans, terrain, and all environmental considerations. Intensive on-the-ground reconnaissance is necessary to locate a road in the best location taking the above factors into consideration. Whether a road is one-quarter mile or three miles in length, a poor location can affect not only the road profile but the entire surrounding area including development, site, reforestation, logging possibilities, water quality, etc. Intensive field work is required on all roads, not just one trial grade line. This intensive work takes manpower and time.

Road design and locations may have the highest standards and workmanship, yet one day of careless tractor work on the ground at some critical location can destroy the intent the engineer had in his planning. Many of the road construction problems BLM has had could have been prevented by having a contract administrator on the ground during construction. Lack of manpower, and with the contract administrators spread too thin and over too many contracts, has put us in a very poor position to assure complete adherence to contract requirements.

Present staffing of engineering disciplines found within the western Oregon districts is not sufficient to assure the quality and quantity of input needed to satisfy all phases related to road engineering and inspection. Each district submitted projected manpower requirements needed to do a total job on timber sale roads. Over one hundred additional positions were identified. The majority were earmarked as construction inspectors.

The need has also been identified for additional, technical-support positions such as soil scientists, fisheries and wildlife biologists, and geologist or material engineers.

Recommendation

District level - increase number of positions in engineering and technical-support disciplines indicated as needed.

State Office level - add three positions related to:

- Logging System Specialist - as previously recommended.
- Engineer with prime responsibility for coordination, assistance, etc., of the timber sale road program.
- Geologist or Materials Engineer - would have major responsibility in providing assistance in forest road construction and maintenance problems related to slides, slumps, etc.

E. Maintenance

1. Control of Maintenance Operations

The greater part of maintenance in western Oregon is presently performed by Federal Highway Administration maintenance

crews. This program involves approximately $3 million per year and 100 FHWA personnel.

The question is continually posed -- Would BLM operation of the road maintenance program for the road system in western Oregon be more effective than present arrangement with the FHWA?

Recommendation

The major obstacle as confirmed by the Washington Office to the BLM operation of the western Oregon maintenance program is the necessity of increasing the Bureau personnel ceiling. Before any extensive analysis or committee report is prepared, this item should be reviewed with the W.O. to determine the possibility of transferring FHWA positions and equipment to BLM within the next 4 years. If this is not possible, there is no need for a study.

Items to be recognized if the Bureau assumes complete responsibility for maintenance program include:

a. The FHWA permanent and temporary ceiling would have to be available to western Oregon (approximately 100 positions).

b. The establishment of revolving fund authority for equipment replacements would be necessary.

c. Additional manpower to carry the additional contracting workload would be needed.

d. Utilization of FHWA laboratory services would continue, but the Bureau would have to expand technical-support in this area.

e. Administrative requirements of FHWA seem to be more favorable in providing greater authority to field foreman to accomplish project work and act in emergencies, adjustment in BLM procedures would be needed.

It is recommended that a committee be formed to make a complete in-depth study should the W.O. indicate a reasonable chance of favorable action for BLM to operate the maintenance program. This committee should also study other types of maintenance presently being performed by BLM's western Oregon districts to determine if there are any advantages to one centralized maintenance program. In addition, BLM should have a plan of action in mind should FHWA elect to terminate this service to the Bureau. Such a study is now being undertaken by FHWA.

A decision to make a Bureau study or continue the present program should be made within the next year (FY 1974). This is a constant topic of discussion and a factor effecting attitudes so important to maintaining the best possible relationships to assure the most productive BLM-FHWA operation of the maintenance program.

2. Road Maintenance Fees

a. Maintenance fees collections are over twice the amount collected annually in road use fees (should approximate 1½ million dollars in FY 1973); however, background data or studies on this subject are very limited. The present maintenance study was completed in FY 1971 by the Oregon State Office. The 1971 study

pointed out many areas where further research or field studies are needed; for example, the effect of recreational use of roads on maintenance costs.

b. Haulers of public or private timber may utilize other routes (if available) to avoid payment of maintenance fees or use the BLM roads only when necessary.

Considerable man-months are now expended in modification of timber sale contracts to authorize and adjust maintenance payments based on the mileage of roads actually utilized for timber removal from given tracts. (Present system is maintenance fee based on rate per thousand bd. ft. per mile.) In addition, timber sometimes is hauled over poorly constructed or parallel roads to avoid payment of maintenance charges. This may result in increased erosion and defeats the purpose of road program, which is to provide one system to develop all the timber in the particular drainage.

Recommendation

a. Develop the studies, records, and other data required in support of the maintenance program and fee calculation.

Present progress - a rather extensive maintenance study was completed in FY 1971. This study provided the basis for the fees established in 1972 and definitely pinpoints the weaknesses in our present system. The Bureau has done some work with the Forest Service in an attempt to better quantify road use. (The present method of measurement of thousand board feet of net scale has the

problem of the several scaling systems giving different board feet values plus there is no record of cull or defective volume.)

It is recommended that timber haul road maintenance be established as a research project and/or adequate field studies be programmed to obtain the needed data for periodic recalculation of maintenance fees.

b. The maintenance fee for each timber sale should be specified as a set fee. Payment of this set fee amount would authorize use of any and all BLM roads by the purchaser; however, advanced notification would be required of specific roads to be used.

For additional volume under the contract a rate per thousand board feet would apply.

The use of mileage would be discontinued in specifying the rate or amount of maintenance payments in timber sale contracts.

3. Increasing Road Maintenance Program

As stated heretofore, western Oregon has approximately 8,000 miles of road and some 500 miles are being added each year. Maintenance funding has not increased in proportion to the mileage of roads being added. A report on problems in the road maintenance program is attached as Appendix I.

Recommendation

Maintenance capabilities and requirements must be recognized in road development planning. More temporary roads and

measures to close roads or to reduce maintenance must be considered if the maintenance cannot be performed.

Maintenance cost data must be developed and become a part of the consideration of the planner in order to provide the proper balances. The State Office must intensify its efforts in this area.

Road Administration

IV. Road Administration

Road administration as used here relates to those activities which are necessary for managing the road program. These activities include right-of-way permits and agreements, property and capitalization records, road inventory, etc.

A. Introduction

Past studies, program authorities and the development of the present road administration system are reviewed. The goals of the road administration section and some terms used in this section are defined.

1. Development of the Present System

Originally, BLM owned no roads and because of the intermingled public-private land pattern was without a means of assuring access to potential purchasers of government timber. BLM's program of road development and use in western Oregon began on April 5, 1950, when the Secretary of the Interior issued the O&C right-of-way regulations. These regulations authorized BLM to exchange access rights with intermingled private landowners in western Oregon through a right-of-way agreement and permit system. Additionally, BLM was authorized to establish an administrative system which requires permits for commercial use of public roads, collection of road use fees based on the construction costs, and collection of a maintenance fee. The philosophy of this regulatory system was to develop access to BLM lands through reciprocal arrangements

which would be to the mutual benefit of both the public and private landowners.

During the intervening years the program moved forward rapidly. Today legal access for timber management purposes has been secured across approximately 90% of the intermingled private lands suitable for coverage under right-of-way agreements. Road use and maintenance fees are being collected and potential timber buyers have reasonable access to BLM timber sales.

The program has been successful, but it has not been free of problems. Administrative procedures have remained constant, not keeping pace with changing operating conditions. A reconciliation between procedures and current conditions must be accomplished. The gap between management goals and the administrative system continues to widen and the two are often at cross purposes. The administrative procedures have in effect become an end in themselves. Often they do not provide support for the resource management program. Some of today's problems were recognized in 1955 when Bureau officials met with industry and O&C county representatives to consider proposed amendments to the regulations. Numerous other efforts to solve the problems have been made since the 1955 meeting.

2. Past Studies

Studies and audits of the administrative procedures associated with the road program in western Oregon have included "inhouse" efforts, joint efforts by industry and BLM and an audit

by the Department of Interior. These efforts identified the problems. Recommendations for resolving the problems either failed to come to grips with the problems and made suggestions for further studies or were impossible to implement for field operations.

Past problem solving efforts have been frustrated by the sheer magnitude of the administrative system. The system provides for accountability of investments and cost shares, computation and collection of fees and issuance of permits for road use. The complicated situation defies separating the problems and approaching them one by one.

A list of past studies and audits, instructions and procedures, along with a summary of three of the more complete studies are attached as Appendix II.

3. Program Authorities

It is recognized that certain basic government authorities govern any system the Bureau uses. Authorities which govern the Bureau's road administration program were identified. A listing of these authorities with summaries of some, is attached as Appendix III.

Basic authorities and requirements fundamental to any discussion of the administration of the road program include:

a. Congressional declaration of policy that:

(1) Effective control of income, expenditures, funds, property and other assets shall be maintained by the head of each agency through a system conforming to standards prescribed by

the comptroller. GAO is to cooperate in developing and establishing the system.

(2) USC Title 31, Money and Finance, Section 483a requires that services shall be self-sustaining to the fullest extent possible and the head of each agency is authorized to prescribe fees, charges or prices. The fee shall be fair and equitable, taking into consideration direct and indirect charges to the government, value to the recipient, public policy or interest served.

b. BOB Circular No. A-25 - Document establishes the criteria for user charges and applies to all Federal activities which convey spiral benefits to recipients above and beyond those accruing to the public at large. The responsibility for adoption of fee schedules consistent with this directive rests with each agency.

c. Property Accountability - Each agency must maintain inventory control and accountability systems for property under its control (40 USC 483(b)). The principles and standards for property accounting systems are established by the Comptroller General with systems development by GSA (40 USC 486(b)).

GSA regulations require an annual real property inventory. Such inventories were initiated and are being continued at the request of the Senate Committee on appropriations. Instructions in 41 CFR 101-3.101 contain a requirement to capitalize original costs plus the costs of capital improvements incurred subsequent to the

date of acquisition. Coverage includes unreserved public domain, real property acquired by purchase, construction, donation and other methods, buildings or other structures and facilities owned by the government whether or not located on government land.

BLM Manuals 1301 - Accounting Principles and Standards, 1311 - General Ledger Accounting Control, and 1532 - Structures, Facilities and Installation Accountability, contain specific instructions on property accounting procedures.

d. Code of Federal Regulations Title 43 Public Lands - Specific sections dealing with rights-of-way are detailed in 43 CFR part 2800.

4. Goals of this Section

The goals of this section are:

a. To assess current and foreseeable administrative program requirements and determine the changes in direction necessary to assure that administrative procedures support rather than dictate resource management goals.

b. Within the context of the preceding goal, study the present system and its assorted problems, and recommend the changes needed. Past studies and newly identified problem areas are considered.

c. To present recommendations in sufficient detail for implementation without additional major studies.

B. Present Road Administrative Problems

Present road administrative procedures are explained in reference documents such as Review of Timber-Access Road Accounting Procedures dated April 1970, which provides an adequate description of present methods. Road use fees have been consistently identified as a major problem, both from the size of fee and the number of records needed.

1. Road Records

Road records contain a large volume of files and data. It is estimated that separate record and pertinent supporting data is maintained for 22,000 individual road segments. This number increases as new segments are constructed or as new road users request the use of a portion of an established segment causing further segmentation. Each record must contain data on origin of road, ownership, acquisition and improvement costs, road use fee determinations, paid and unpaid user shares. Presently there is no method of summarizing the data in these individual records and each record is maintained manually.

Inadequate guidelines have created a situation in which the records are not uniformly maintained throughout the five western Oregon districts.

2. Road Inventory and Capitalization

Record duplication exists between the individual road record and the accountability records required for property control.

Consolidation of data is needed so that inventory and capitalization requirements are satisfied by a single source. Neither the road inventory nor capitalization record are complete or properly maintained.

3. Manpower and Costs

Because of its complex nature, administration of the current system requires a wide range of expertise. Foresters, legal, managerial, realty and right-of-way, engineering and clerical skills are used to operate the system. Few individuals appear to understand the entire process and considerable specialized training is required.

Various estimates have been made of the cost of maintaining the current system. These estimates range upward from a low of $160,000 annually. These costs are generally considered excessive although there is no means of determining what is an appropriate amount. It must be remembered that some type of road administration system is required. The problem is to arrive at the most effective system.

No estimates are available on industry record keeping costs, but collectively their costs probably are comparable to BLM costs since each maintains some records with respect to their respective agreement areas.

4. Right-of-Way Permits and Agreements

Many of the problems associated with right-of-way permits and agreements are the result of the gradual evolution of the regulations and procedures.

Because of the language used, permits and agreements are subject to individual interpretation. These permits and agreements were obtained by negotiations which were sometimes long and arduous. As a result each is different. This makes them difficult to work with because two agreements covering the same general area may differ significantly.

Due to changes in philosophy many roads have been built to a higher standard than necessary for timber removal so that they may serve several uses. We do not have a system of fairly allocating these additional costs to non-timber uses. The resulting road use fees sometimes prohibit the removal of low-value products from private land and can cause construction or use of less efficient transportation routes. This can reduce the collections to the government.

The present allocation procedures apply to permits signed after May 14, 1963. Some permits signed before that date contained a clause which stated that if allocation procedures became available they would apply. The result is that we have the following cases:

a. Permit signed after 5/14/63, allocation applies.

b. Permit signed 5/10/63, no provision for future allocation, no allocation.

c. Permit signed 5/10/63, provision for future allocation, allocation applies.

d. Permit signed in 1959, no provision for future allocation, no allocation.

The present allocation procedure is limited to a maximum of 15% for single lane roads and 25% for double lane roads and has limitations on what is considered a separable cost.

The present regulations [43 CFR 2812] and existing permits lack provisions for requiring compliance with present day environmental considerations, such as control of pesticide use and construction which will affect water quality.

Present regulations do not provide a simplified means of setting a fee or charging a basic fee when the money to be collected from road use is less than the cost of collecting it. Also, regulations require collection of fees for commercial use of forest roads. However, we do not have uniform procedures for computing road use fees for rock hauling, mining, or minor forest products.

The road fee requirements of the permits and agreements are responsible for much of the intricacy of the existing road record system.

Industry landowners want their rights across the BLM in a recordable form and the present permits are not recordable.

5. Other

Procedures and regulations are needed to provide the means of transferring the jurisdiction of roads to other public bodies when the need arises. For example, a BLM built road may become so heavily used by the public that it should become a part of the public transportation system.

C. Future Road Administration

To determine the road administration system needed in the future it was necessary to predict future trends and needs. The following summarizes these predictions.

1. Any future administrative system must support land management goals. Systems required for accountability, fee computation and collection, and control must interface to provide a harmonious operation.

2. Automation of records will continue to increase.

3. The demand for administrative efficiency will increase as the competition for available funds to perform land management tasks increases.

4. Much of the road administration time is spent on maintenance of property records, road inventory and approval of construction. These activities will continue under any fee system.

5. A sharper definition of the costs to be allocated to public use, safety, environmental and management considerations will emerge. More road costs will be borne by public funds.

6. Many agreement shares will not be paid off by the existing timber. This is because of the existence of alternate road systems, absence of tributary timber in this rotation and changing market locations and conditions.

7. It is estimated that nearly all private timber will be removed within 10 years, and the amount of use fees collected will lessen.

8. The need for greater BLM jurisdictional control of the road system in order to serve the broad public interest will increase. This conclusion is based on the increases projected for recreational use and access in general, the management requirements of intensive land management, and the need for traffic control measures to regulate or limit use for environmental protection and safety. The interest of most private landowners in maintaining their share of the current road system will diminish as the harvesting of the first rotation is completed.

9. The need for a means to transfer road jurisdiction to other governmental agencies will continue to increase as intermingled private lands are converted to more intensive land use such as subdivisions.

10. Easement acquisition will be the primary means available for gaining additional road control and jurisdiction.

11. Technological advances in transportation could cause major changes in today's traffic patterns. BLM transportation systems must be responsive to the changes and not locked into tributary areas, etc.

12. There will be increasing need for BLM to have easement granting authority to allow granting of right-of-way across BLM land for ingress and egress to residential areas. Use of SLUP's and R.S. 2477 will not be satisfactory for establishing such rights-of-way.

D. Criteria for Road Administration System

In order to approach this problem solving effort in some logical sequence, criteria have been developed to portray the needs that any revised system must satisfy to solve the identified problems. Broadly, the system must meet statutory requirements, serve management needs and resolve the identified problems.

Specific criteria for a revised system are as follows:

1. Promote the achievement of resource management objectives for both public and private land administrators.

2. Provide a standard simplified method for establishing and maintaining the necessary records with a minimum expenditure of time.

3. Provide a simplified method for fee computation if a fee is required.

4. Provide for a reasonable allocation procedure and for road use fees that are equitable in terms of services provided. This will encourage logical and economical road use and be acceptable to road users and the general public.

5. Provide a system which will meet statutory and regulatory requirements.

6. Provide a system compatible with existing agreements and permits while providing an incentive to the existing permittees to adopt the revised system.

E. Solutions to Road Administration Problems

1. Road Use Fees

The most commonly mentioned problem was road use fees. They were directly related to nearly all administration problems. The problem was twofold; the computation of the fee and the size of the fee. Road use fees should not dictate transportation routes for timber. Considerable effort was expended in examination of various alternatives. Following is a description of each alternative and arguments for and against as they relate to the established criteria.

a. Alternatives

Each alternative is described. They are then discussed in relation to the criteria. Any major change will require the use of two systems until existing permits and agreements can be renegotiated to incorporate the new system. Some permittees may not want to change. If so, we could have two systems for many years.

(1) Minimum Fee

This alternative proposes that no road use fee be charged and only a minimum charge would be made for filing and processing the permit application. This has been called "free use". Such a charge would be made only one time for each permit application whether it be a short term or perpetual permit. A permit would have to be issued; usually it would not require more than clerical preparation.

It is the contention of some that the cost of a road constructed under a timber sale contract is paid for by the timber from the sale that built it. The total cost of the road construction is allowed for in the appraisal of the timber to be sold. It is assumed the cost of the road is fixed and use by private timber will not affect road construction costs. Therefore, there is no need to charge for private use.

For BLM access roads constructed with appropriated money the cost is recaptured by the increased value of government timber hauled over the road.

This system would promote the resource management goals of both public and private land administrators. Road use fees would not normally dictate transportation routes. It would provide as simple a fee structure as possible and it would minimize record keeping. Allocation of costs to other road uses would be unnecessary. It would be consistent with just compensation practices in Federal right-of-way acquisition which consider improvements on the land as having value only to the extent that they enhance the land. A minimum fee does not meet the requirements of BOB Circular A-25 or the statutory requirements of 31 USC 483a as they relate to user fees and requirements of consistency between governmental agencies.

It cannot be used in existing agreements unless both parties adopt a similar system. For existing agreements it is an established principle that the government cannot give up a consideration due the United States without receiving some compensation.

The minimum fee does not meet present regulatory requirements to base use fees on tributary volume and road costs.

(2) Road Rental

This system involves charging a flat rate for the use of any or all BLM roads or it could be developed to charge a different rate for each type of road - bituminous, rocked, or natural. The rate would be assessed against the volume hauled or against the volume hauled per mile. It differs from the average fee in that the intent of a road rental would not be amortization or cost recovery of BLM road investments but rather to set a use rate that would continue indefinitely. Permittees would not get free use at some point in the future. Road rental provides an easy means of charging for road use and would allow fast and efficient issuance of permits.

Setting the rate to be charged would be accomplished by one of the following methods:

- Market Data -- This approach involves analyzing market transactions in order to establish a rental rate and is a popular method for many types of real property.
- Public Utility Permits (PUC) -- The states use this system as a revenue collection device. It is calculated on a ton mile basis.
- Capitalization of Investment -- This approach would attempt to recapture the investment by using a fee based on a broad average.
- Arbitrary -- Just pick a figure.

The use of a road rental system would usually promote management goals as the cost of using a given amount of road would be related to its length and not its location or type. A road rental system would simplify the record keeping and eliminate the necessity of computing individual fees. Fees would be collected in perpetuity. Allocation would be unnecessary. A low road rental fee would encourage logical road use.

Road rental fails to meet the requirements of BOB A-25 and 31 USC 483a for the same reasons as the minimum fee. Also, 23 USC 129 prohibits the charging of a toll and a rental fee which is based on use and continues forever would be considered a toll. Amendment of existing agreements and permits to allow the use of a road rental fee would probably require giving up obligations due the United States and we do not have a basis for doing this. A road rental system would not be based on tributary volume and road costs as required by present regulations.

(3) Forest Service Share Cost

This alternative proposes that BLM adopt the Forest Service system of cost-sharing under cooperative agreements. Such cost-sharing agreements are entered into when a road is to be jointly used and/or constructed by the government and a private party for commercial hauling of forest products. BLM would need regulation changes before entering into the Forest Service "type" agreements, and existing BLM reciprocal agreements would have

to be superseded or modified to adopt the Forest Service cost-share system.

The timber industry worked with the Forest Service in developing this system and the principles are acceptable to industry. The requirement that road standards and cost shares be agreed upon prior to construction would hinder operations on the intermingled lands of western Oregon. Present right-of-way agreements give the BLM more inclusive rights and the committee does not see any justification for giving up these rights when such a change would increase the problems in carrying out our land management programs.

This system would reduce record keeping if both parties prepay their shares. Fee computation would be approximately the same process as now except that agreement on shares would be easier if the BLM accepted a greater share for public use. Greater allocation would lower the fees and fees would have less impact on selection of roads to be used.

New legislation would be required to permit the BLM to enter into this type of agreement. The system grants recordable rights to landowners and they favor this.

There are good features of the Forest Service system which could be incorporated into existing BLM agreements. These features include the $100 minimum collection, the flexibility in method of paying-off a deficient share, and more favorable allocation.

(4) Road System Approach

This approach would establish fees on a system basis. The exterior boundary of a system could be flexible, based on drainages, district boundaries, highways or other features. All the roads within the system boundary would be considered as a single road for fee calculation purposes.

All permanent roads are included and the sum of all road costs is divided by the volume of all timber in the system and the miles of road. This results in a low rate per M bd. ft. per mile of road.

$$\text{Cost per M} = \frac{\text{Total Road Cost}}{\text{Tributary volume}} \qquad \text{Cost per M per mile} = \frac{\text{Cost per M}}{\text{Total miles}}$$

An example of this application, "Use Fee Analysis of Elk Creek-Weaver Road System" is attached, see Appendix IV.

Use of this system would nearly eliminate road use fees from consideration in determining development plans. It would result in a very low fee which would be attractive to road users and encourage use of the most economical haul route.

Record keeping and fee computation would be simplified if one fee is used for all permittees in an area. If each permittee is allowed to specify the area to be covered by his fee, record keeping and fee computation would be more involved.

Allocation would not be an issue under this system. The fee would be so low as to make allocation meaningless.

The road system approach does not meet present regulatory requirements to base fees on tributary volume and road costs. Adoption of this system would conflict with the principle that we cannot give up an obligation without receiving something in return. The system does not attempt to amortize the investment.

(5) Average Road Fee

This alternative presents a means by which average road use fees can be established based on existing fees. The concept can be used to arrive at a rate expressed in cents per thousand board feet hauled per mile for:

- Any road in western Oregon.
- Any road in western Oregon by road class (bituminous, rock, natural).
- Any road in a district.
- Any road in a district by road class (bituminous, rock, natural).

The system requires a random sample of the district road records to get a statistically sound sample of fees already computed for road segments. These fees are analyzed by segment length, road class (single lane or double lane), road surfacing (bituminous, rocked or natural) and by district. The information obtained can be examined to determine the most administratively feasible fee. See Appendix V.

If the average fee is low enough it will be adopted by existing permittees and encourage use of logical transportation

routes. Widespread adoption of the average fee will reduce fee computation and simplify road records.

Adoption of such a fee by existing permittees would reduce record keeping if the old records can be lessened by "swapping-out" shares and starting over with one deficit balance - BLM or private. The average fee would then be used to pay off this balance.

The billing of road users would be simplified as it could be done on the basis of miles of road used, and it would not be necessary to keep track of many irregular segments. Road use and road maintenance fees would be based upon the same units - miles.

Probably the leading factor in favor of the system is its simplicity and ease of application. The idea of spreading the cost of roads over the tributary timber has gained wide acceptance. It could be acceptable to most major landowners and is easily understood. Administrating such a system is compatible with existing agreements and permits.

By limiting the roads considered to the "average road required for logging," it is possible to eliminate much of the need for considering separable costs. Allocation of costs to other uses, such as recreation, rock hauling or other commercial use could be worked into the average fee.

There is question whether or not computation and use of an average fee would meet regulatory requirements. A Solicitor's opinion may be needed.

The system generally meets the criteria established. Implementation would require detailed guidelines especially for insertion into existing agreements and permits.

(6) Modification of Present System

This alternative retains the present system of amortization and record keeping. The present amortization procedure is based on the idea that the road owner can charge a fee until he has recovered those road construction costs equal to the other parties share.

Prior to May 14, 1963, all commercial road users were required to pay a fee based on the replacement cost of the road as constructed without any deductions for uses other than logging. On and subsequent to the aforementioned date certain private timber using BLM roads were afforded a reduction in replacement cost to be determined by using Form 2234-11, Road Evaluation and Replacement Cost Calculation Sheet, Appendix VI.

Permittees and the BLM are disenchanted with the present allocation procedure. This dissatisfaction arises primarily because of small amount of relief given, especially on tie roads, double lane roads and bridges. Modification of the present allocation procedure is necessary to make the existing system of amortization more workable.

Such a modification would reduce the user fee to an acceptable level, (especially in those cases of extremely high use fees

of $10-$20/M for short tie segments), encouraging use of the BLM roads and achieving more harmonious use of the public-private road system. It would reduce much of the industry-BLM argument on certain road problems.

This alternative would not reduce administrative costs. Just modifying the allocation procedure would not provide a more simplified record keeping system nor would it simplify the method of computating a fee. In fact, it may complicate it on certain roads as greater value judgments would be made as to separable costs and more latitude would be allowed as to other uses of roads.

There is no doubt that the modification would provide a more reasonable allocation because it would allow the government to pay a greater share of the construction cost of roads which are attributable to uses other than timber hauling. It would also allow more latitude in assigning factors for other uses on Form 2234-11. The modification would also allow allocation to apply to permits issued prior to May 14, 1963.

The legal question of retroactiveness of allocation, especially when the use fee has been established and agreed to by the permittee, must be resolved.

Such a modification would be compatible with the present system. Detailed guidelines and strong guidance would be necessary to cause the least disruption with on-going permits and agreements.

(7) Present System

Doing business as usual with retention of existing agreements and permits is an alternative. Districts can continue to operate the program as they have. This would eliminate the need for a vast effort to adopt another system or modify the existing system thus avoiding immediate manpower costs for a change-over.

This alternative suggests that retention of the existing system would:

- defer problems until they become more urgent, or
- defer problems until some later date with the hope that conditions which exist then will permit formulation of better solutions and implementation.

It is obvious that doing nothing to improve the road use fee system will not lead to greater achievement of resource management objectives. We would remain static or fall further behind as far as the administration of the western Oregon road program. Road records would continue to accumulate as new road segments are added to the system through purchase or construction or as existing roads are improved. Continuation of the present system will perpetuate the existing problem. Computation of road use fees and shares will continue as road systems are connected and as BLM acquires more road control.

The existing allocation procedure will be increasingly difficult to defend as construction costs become higher, other uses

of logging roads become more prevalent, and as the BLM land continues to transcend from commercial forest lands to recreational lands.

b. Weighing the Alternatives

The committee weighed each alternative against the criteria developed for a future road administration system. The results of this weighing are summarized on a matrix which is included in this section. (See page 59a).

During the weighing it became obvious that no alternative would satisfy all of the criteria. It also became apparent that certain criteria have more weight than others. It is one thing to propose a change in Bureau regulations but quite another to propose changes in the United States Code or government-wide directives such as BOB A-25. The minimum fee and road rental were rejected for failing to meet statutory requirements.

c. Recommendations

It is the committee's recommendation that alternative 5--Average Road Fee--be adopted as a Bureau system for establishing a uniform fee structure in western Oregon for all future permits and that alternative 6--Modification of Present System--be adopted for all existing permits.

The recommended application of this system is to establish an average road use fee by road class (bituminous, rocked, natural) for all roads west of Range 8 East, W.M., Oregon. All new permits issued will be subject to this continuing road use fee which includes

CRITERIA → / ALTERNATE NO. ↓	ACHIEVES RESOURCE MANAGEMENT OBJECTIVES	PROVIDES A STANDARD SIMPLIFIED METHOD FOR ROAD RECORDS	PROVIDES A SIMPLIFIED METHOD FOR COMPUTING FEES	PROVIDES REASONABLE ALLOCATION	COMPLIES WITH STATUTORY and REGULATORY REQUIREMENTS	PROVIDES A SYSTEM COMPATIBLE WITH EXISTING AGREEMENTS and PERMITS
(1) MINIMUM FEE	3	5	5	5	0	1
(2) ROAD RENTAL	3	3	4	3	0	1
(3) FOREST SERVICE COST-SHARE	1	1	2	4	3	2
(4) A SYSTEMS APPROACH	4	3	3	5	1	2
(5) AVERAGE ROAD FEE	4	4	5	5	3	3
(6) MODIFICATION OF PRESENT SYSTEM	4	0	3	5	5	5
(7) PRESENT SYSTEM	2	0	0	0	5	5

NOTE: Each Alternative is rated against Criteria on scale of 0 to 5

0 = Alternative DOES NOT meet Criteria
1)
2)
3) = Degree that Alternative meets Criteria
4)
5 = Alternative meets Criteria

allocation. Pro-rata shares will not be determined unless right-of-way agreements are involved. BLM and permittees will have the option of (1) modifying existing permits and agreements to conform to the average fee by road class or (2) staying with the present system of fee computation. If option (1) is selected, the average fee will apply in all cases henceforth under that permit, and the rate (fee per M/Mile) will be credited against the shares as established under the existing permit or agreement. The committee also recommends that certain other administrative changes relating to all permits be made as follows:

(1) In future timber hauling permits where the amount to be collected is less than $100, use the average fee to compute a lump-sum payment.

(2) Modify the present allocation procedure as follows: (See Form 2234-11, Appendix VI).

(a) Item II Separable Costs - On the instruction side of this form the limits of separable cost items are set out. Change this language to the following:

> (Step II - Separable Costs. After determination of replacement cost, those facilities which were constructed primarily for uses other than log hauling must be identified. Costs of these construction items are deducted from the replacement cost, Step 1, above.)

With this change the Authorized Officer can take into account all the items presently listed in Step I, but in addition an extra lane of road and bridge, tie roads, etc., may be considered.

(b) Road Qualification Requirements - Modify requirement 4 to make allocation possible on all roads on which the amortization item has not been agreed to.

(c) The State Director now has the authority to adjust point values assigned to the "Allocation of Uses". The allocation to other commercial uses can be increased.

All of these modifications can be accomplished by memorandum from the Director, BLM.

The impact of carrying out the above recommendations would be two-fold:

- There would be an appreciable amount of savings in manpower in issuance of new permits and collection of fees from the permittees. Savings will be more noticeable as second-rotation harvests increase.
- There would be a slight reduction in revenues collected from permittees but this would be partially or nearly wholly recaptured by savings in manpower in administration. Also, some amount of increased use of Bureau roads could be expected in those cases where the average fee is lower than the present amortization rate. The modified allocation procedure can also be expected to increase use of some roads.

As a general conclusion, this committee has found that the proposed changes to the fee system would have an overall positive impact upon the road administration program.

d. Implementation

The plan for implementation of the above recommendations is as follows:

(1) Modify the allocation procedure and make such allocation available for all roads on which a fee has not been finalized.

(2) Compute an average fee by road class (bituminous, rock, natural) for western Oregon. This has been done by the road committee based on a 5% sample of the district road records. A decision must be made by the State Director as to the average fee to be charged. See Appendix VII.

(3) State Director must issue explicit instructions for implementation of the changes. Close liaison between districts and State Office must be maintained to monitor the implementation procedure and results.

2. Road Record System

a. Recommendations

The existence of over 900 permits and agreements for over 22,000 road segments precludes any drastic change in road records. However, the inconsistencies between districts as shown in the audit report of 1970 reveals the need for guidance as to the type

and quality of records needed. Minimum standards for road records should be developed. The procedure should be flexible so it will mesh with the existing records and it must meet the requirements of the road inventory.

b. Implementation

Right-of-way specialist from the Oregon State Office should review the procedures being used by the districts and the State Director should issue a manual supplement setting forth the minimum requirements.

3. Road Inventory and Capitalization

a. Recommendations

A road inventory is required by BLM Manual 9111.11B. However, the format as given on Form 9110-1 does not meet the requirements of western Oregon. Therefore, a modified version of the road inventory should be developed. See Appendix VIII. This form will serve as the source document for capitalization of roads, eliminating one operation at the district level.

The value placed on the road or facility should represent its cost. Federal Aid Highway projects should include all costs associated with the project. Roads constructed under timber sale contracts should be valued at the cost allowed in the timber sale road appraisal. No additional allowances would be made for profit and risk. Easements would be valued at acquisition cost. Where road values have been established under right-of-way permits, these

may be used. If necessary an estimated cost can be used for previously constructed roads.

An example of the proposed inventory form is shown in Appendix VII along with a form which was developed as part of the MAP/Model system. The two efforts must be coordinated. Tentative procedures for capitalization of stockpile aggregate follow. The inventory probably should be computerized.

ACCOUNTING OF AGGREGATE IN O&C DISTRICTS

Tentative Procedures

A. Aggregate is planned and entered in AWP.

   1. Timber Sale Amount Needed - Units and Estimated Cost.

   2. Maintenance Needs - Units and Estimated Cost.

   3. Other General Needs - Units and Estimated Cost.

B. AWP is approved for the amount of aggregate that can be funded--by district.

C. Maintenance aggregate is not capitalized and therefore is no problem.

D. Timber Sale Contract Aggregate

   1. Upon receipt of FHWA's Form PR-369 showing aggregate stockpiles completed, DSC will indicate the applicable overhead for the completed stockpile on the PR-369 and furnish the district office a copy to be held and used in Step 2.

   2. District Managers will identify completed timber sale roads on their Road Register by number or name. They will include

in the total appraised value, the cost of aggregate (including overhead) used in its construction. Example:

Timber Sale Road 21-6-28-1A (appraised value)	$26,400.00
Aggregate used on above road from:	
Project 5071 Buck Springs AP (including overhead)	3,500.00
Project 9033 Camas Mtn. AP (including overhead)	4,500.00

3. From information contained on Road Register, DSC will prepare a journal voucher capitalizing the timber sale road giving credit to each project aggregate stockpile for the withdrawals including overhead.
4. District Managers will submit a Road Register for each month in which there is activity to be reported and for the month of June each year even if there are no entries for that month. The monthly Road Register will list all project aggregate stockpiles which are completely used up, so that DSC can close any remaining balances out of GL 231, Capital Work in Progress.

b. Implementation

Oregon State Office, in conjunction with the appropriate Service Center specialists and district personnel, should develop the forms required and the necessary instructions. In developing the instructions it should be remembered that the overall picture is more important than a high degree of refinement. Round off road lengths to the tenth or half-mile and round off costs to the nearest $1000.

These instructions should also include a method for determining when a road is to be inventoried; i.e., timber sale roads, after construction and before termination of the timber sale contract.

4. Manpower and Costs

The committee was unable to identify any means of significantly reducing the manpower and costs of the road administration. Much of the activity is basic and must go on regardless of the system used. It appears that the road inventory may be computerized so that it may be analyzed for management purposes.

Proposals made concerning use of the average fee for new permits and swap-out of shares under existing permits and agreements would result in some saving of manpower.

5. Right-of-Way Permits and Agreements

a. Recommendations

The following recommendations are made in addition to those made in the section on road use fees.

To simplify record keeping it is recommended that a program of exchanging road share be emphasized. Swap-out all agreed to shares and establish a running balance. When additional roads are used the shares will be established and the balance adjusted. Payment can be at a set rate determined by negotiation. This would significantly reduce the amount of record keeping since only one balance need be maintained per permit.

43 CFR 2812 should be revised to provide greater consideration for protection of the environment in construction and use of roads by permittees.

The Bureau should seek a means to grant recordable rights to permittees. Guidelines should be issued on when a permit is needed and when maintenance fees should be charged. Hauling of minor forest products and rock are examples of what should be covered. The recommendation of a minimum fee or basic fee of $5 per year per mile should be considered when preparing these guidelines.

b. Implementation

Districts should be encouraged to enter into swap-out agreements. Swap-outs take manpower at the time of preparation but result in an overall saving of time.

Redrafting of the right-of-way regulations to incorporate environmental considerations and provide for an average fee instead of a fee for each road should be done by Service Center and Washington Office staffs.

Legislation to give the Bureau authority to grant recordable rights is pending and should not be allowed to languish.

The State Director should issue guidelines as to when to charge road use or maintenance fees for hauling minor forest products or rock.

6. Other

The Bureau should seek authority to transfer control of certain roads to local government, such as, city, county or state, when their use makes these roads more suited for such administration. The Bureau should also seek authority to grant permanent easements to noncommercial road users for crossing BLM administered lands to reach private dwellings.

Guidance must be issued on the appraisal of roads for purchase of road use through easements or right-of-way agreements. Present easement acquisition procedure requires payment of not less than market value based on a before and after appraisal. The amount paid for control and use of a road under this procedure is usually considerably less than the BLM share under an agreement. Under the terms of right-of-way permits and agreements, fees for road use are computed by dividing either the replacement cost or the cost of construction (if built by FHWA), by the tributary volume to obtain a road use fee. The shares are proportional to the timber volume. Therefore, it can be argued that the United States interests would be best served by acquiring easements and not using any rights obtained under agreements. Easements would be less costly and contain more exclusive rights. When appraising roads for purchase, the before and after method of estimating value should be employed assuming that the property owner will have free use of the road. This will eliminate collection of road use fees from the property owner and the maintenance of record keeping of his use.

Appendices

IN REPLY REFER TO:
9113.7 (947)

UNITED STATES GOVERNMENT
Memorandum

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Oregon State Office
P. O. Box 2965 (729 N.E. Oregon Street)
Portland, Oregon 97208

C O P Y

DATE: July 13, 1972

TO : Associate State Director

FROM : Chief, Branch of Road Engineering

SUBJECT: Report to Road Committee on Maintenance Problems, Policy and Procedures, past and present

Some immediate problem areas are:

1. The low priority of this program in receiving consideration for funding from appropriated funds.

2. Fund transfer procedures are not satisfactory as to amount of funds or required frequency of transfers to encourage efficiency and continuity in operation of this program.

3. Maintenance fee regulations for determining the fee need to be established.

4. A cash reserve or long range financing is needed to buy materials, start up new programs for resurfacing projects, for emergency work, and for lead time for seasonal maintenance work and contract obligations.

5. Need to develop a replacement system for stockpile aggregate materials on a 3-year cycle. Rockwear collections are not adequate for the program year rock needs, let alone for a replacement program and resurfacing projects.

6. There is a need for a much more extensive ADP management system, fee system and data collection system than our present printouts provide.

7. The traffic analysis program is very much needed to provide base data for pro rata maintenance, consideration of recreation use in maintenance fee studies and to assist in the design, planning and management decision making processes.

8. Research is needed to determine proper unit of measure on which to base maintenance fees (possibly the ton/mile unit) which is more closely associated with wear and surface replacement criteria.

P-1541-1
Oct. 1968

9. Pro rata maintenance is not uniformly interpreted or used, and needs to be redefined and the practice re-examined.

10. Mineral Haul Fee is charged by the USFS. The BLM does not, but possibly should.

11. On License Agreements - differences exist between the procedures used to determine fees by BLM and USFS.

12. Too many miles of road are requested for maintenance, for the personnel and funds available. Our present overall average is from 43 to 49 miles/man, but does run as high as 80 in some units. Most efficient county and state units consider 25 to 30 miles/man the maximum.

13. More complete and timely work request information by district offices.

Our present Fiscal Year 1973 program consists of:

Total Plan Miles - 4137
Actual miles - 3649

Permanent FHWA Personnel - 93

Funds -	Contributed (871) -	$1,624,544.00
	Appropriated (868) -	1,550,000.00
	Total Gross Program	$3,174,544.00

The contributed funds $1,624,544 consist of a 10-2 projection of 10 months of 1972 and 2 months of 1971, maintenance fee collections of $1,051,544 and previous years' collected funds identified by Washington of $483,000 and an estimated collection of $90,000 for the new Molalla maintenance unit starting up this fiscal year.

Normally the contributed funds $1,624,544 would not exceed $1,000,000 nor be less than $800,000 based on past records of collections.

Transferring these moneys to Federal Highway Administration when they are needed in the program is a very serious problem. These moneys are not actually on hand when the program is approved and there is no assurance that this much will be collected or the amount needed available at the time of a transfer. The only moneys identified directly to this program are the contributed funds which are collected and spent during the same operating year. The identified appropriated funds are available only if there are adequate funds to fund all other BLM programs.

A minimum of $500,000 is necessary on July 1 of the new fiscal year to start up the new program and to obligate liquid asphalt, plant mix, rock, seed, mulch, and materials contracts for the men to work with on the projects we have requested. This money is not normally available until the middle of August. By September 15 our oiling season is over, due to the lower temperatures and cool conditions, which are not conducive to good oiling practices. This usually required late season oiling to get the job done and leads to stripping problems and excessive rock loss, pot-holing, and a shorter service or wear life of the oil mat.

Steps in the funding procedure are as follows:

1. Districts are given target figures to program to, in May.

2. The programs are reviewed with each district by FHWA Vancouver, and BLM State Office Engineering.

3. Adjustments are made by BLM State Office, Branch of Road Engineering.

4. BLM State Office approves the district programs, funding levels, and FHWA personnel numbers.

5. The BLM State Office has delegated the districts the authority to write the Joint Field Letters to the FHWA authorizing their programs and funding levels. Also, by our Joint Agreement this should be done by June 1, so FHWA has time to set up the road accounts prior to July 1.

6. The finance records are kept by FHWA Regional Office in Portland. They furnish the Branch of Road Engineering with advices showing total funds programed, spent, and available for operation.

7. The Branch of Road Engineering in the BLM State Office then checks the program needs and fund status of available moneys and requests the Branch of Administrative Management to request a transfer be made in Washington to Federal Highway Administration.

8. The BLM Washington Office requests the treasury to transfer the amount asked for, to the FHWA in Washington.

9. The FHWA in Washington then completes the transfer to the FHWA in Portland.

10. The FHWA Regional Office in Portland then notifies FHWA in Vancouver that the moneys are available for the program.

This usually takes two weeks to a month under our present procedures and causes program delays and funding problems. I would recommend that a better system be devised with less steps, which would be faster, more direct and responsive to this very important program.

/s/ Ronald J. Cole

ACTING

Attachments:
Operational Road Maintenance Plan
Work Class Codes
Memorandums of Understanding - 1954-1969
Maintenance Policy & Fee Study Data

REFERENCE SOURCES AND SUMMARIES OF PREVIOUS ROAD STUDIES

Reference Sources

1. An Economic Analysis of Accellerated Road Construction - Tillamook Resource Area - Con. H. Schallau - 1970
   This report assesses the economic consequences of accellerated road construction in order to increase receipts from thinning in the management of young growth in the 50,000 acre Tillamook resource area.

2. ADP Study - Denver Service Center - not complete
   An attempt has been made to develop a computer program for the O&C road record system. Some 248 separate actions have been identified. The study is incomplete--no way has been identified to handle the present setup.

3. BLM R/W and Road Use Study - Youngblood - June 25, 1970
   This report recommends: (1) revisions in operating procedures and R/W regulations, (2) additional study of user fees, road standards, amortization and road records, (3) drafting remedial legislation. The report identifies jobs to be done by the W.O., S.O. and Districts.

4. USDI - Audit - Review of Timber Access Road Accounting Procedures O&C Lands - April 1970
   Recommends: (1) standard fee system by road class, (2) changes in record keeping procedures.

5. Comptroller General - Report to Congress - Forest Service Access Roads - November 20, 1970
   The Comptroller General finds that Forest Service access roads with a relatively low priority have been constructed while high priorities did not receive funding. Points out the need for a system to identify priorities on a nationwide basis. At the present funds are allocated to each regional office which in turn allocates funds to the National Forest.

6. O&C Road Programming Study - G. Wright - July 1970
   This is a comprehensive study of the western Oregon road program. This is must reading for the Road Review Team members. Mr. Wright has made some very valid and pertinent observations.

7. Suggestions for research - Oregon State University - Soils in Relation to Road Failures, etc. - November 1970
   State Director offers as research possibilities: (1) methods to stabilize existing roads, (2) engineering designs or practices which could be used to prevent the failure of roads in problem areas.

8. An Evaluation of Investment Opportunities - Ron Sadler - 1968
   Sadler identifies investment opportunities in aggregate production and forest development. Points out areas of imbalance in the use of Grant Funds (5000 series).

9. Instructions and Procedures for Access Road Planning and Programming - Paulson - 1958
   This old set of instructions is excellent background material. Most of this material is still pertinent. Read!!

10. Instruction Memo 71-251 - Environmental Protection - O&C R/W Permits - June 14, 1971
    Establishes additional policy by adding special stipulations to R/W permits, relative to protection of water quality and in the use of herbicides and pesticides.

11. Instruction Memo 70-383 - Prevention of Water Pollution Resulting From Soil Erosion
    Establishes further guidelines in preventing pollution resulting from any construction activity.

12. BLM Manual 2130 - Acquisition of Easements
    Most recent instruction regarding acquisition of easements.

13. BLM Manual 9110 - Roads and Trails
    Most recent instruction regarding roads and trails construction.

14. Eugene Manual Supplement 9113.7 - Maintenance
    An example of District supplemental guidance on fees and other maintenance costs.

15. 43 CFR
    Basic policy in Subparts 2811, 2812, 2821, 2822.

16. Area Order No. 39 - 1955 - 1957 - 1958
    Basic access road fiscal procedures and policy.

17. O&C Logging Road R/W, Permits and Agreements Handbook - 1959

18. Easement Acquisitions Handbook - 1963

19. Forest Engineering Handbook
    A guide for logging planning and forest road engineering. A technical reference.

20. Instruction Memo 70-540 - Access Road Programs - December 16, 1970
    Guidelines relative to road justifications and preparation of justifications.

21. Regional Solicitor's Opinions on:
    a. Liability improvements
    b. Transferring BLM roads to county governments
    c. BLM roads are not public roads
    d. Adjudication of roads on public lands
    e. BLM improvement of State highways
    f. Ownership of improvements placed on exclusive easements
    g. Use of maintenance funds on roads where R/W is owned by county

    Opinions which have established policy directly affecting operations.

22. Agreements:
    a. BPR - BLM
    b. State of Oregon - BLM
    c. Forest Service - BLM

    Each team member should review these documents.

23. BLM Facts
    No comment.

24. Instruction Memo 71-186 - Updating Transportation Plans - May 4, 1971
    No comment.

25. Memo - State Supervisor - February 29, 1960
    Details on construction of roads and improvements under arbitration agreements.

26. Western Oregon Reorganization Study

Summary of Previous Road Studies

"Road Record System Document" - This study was made in 1965 in an attempt to develop a system to computerize the western Oregon road records. The study was made by employees from the Denver Service Center. The document identified the various components of the record system and presented a flow chart. No recommendations were made and no further action was initiated to computerize the system.

"Review of Timber-Access Road Accounting Procedures" - This work was completed in April 1970 by the Department of the Interior, Office of Survey and Review, Audit Operations. This was an in-depth study of accounting procedures. The finding included: Cost is used on BPR constructed roads, timber sale allowance on some and replacement cost on others. The audit recommended: Issue instructions on (1) when roads are to be capitalized, (2) valuation basis for both capitalization and fee calculation, (3) set up control accounts to record key information, (4) determine feasibility of using ADP, and (5) set up a standard fee system.

"BLM Rights-of-Way and Road Use Study" - This study was completed late in 1970 by a team from the Washington Office, Service Center and Oregon State staff. The report is referred to as the "Youngblood Report". Ross Youngblood of the Washington Office was the team leader. The report recommended several actions. Apparently the directorate failed to accept the recommendations; however, some have

been adopted in the normal course of doing business. The recommendations were:

A. Recommendations for Immediate Action

1. Request a Secretarial decision on Georgia Pacific appeal C-344; needed to clarify whether allocation can be applied to agreements approved prior to May 14, 1963.

2. Revise regulations and agreement form (4-413) to make agreements terminable for same grounds as permits.

3. Revise Manual Vol. VIII - Forestry.

4. Support Senate Bill 2296 which would give BLM authority to grant easements.

5. Road Purchase - Recommend purchase of a road with appropriated funds if government control is in public interest.

6. Revise Permit form 4-415(a) to make permits recordable.

7. Take aggressive action to swap out balances on roads of approximate equal values.

8. Release right-of-way across legal subdivisions not needed by BLM but which are included in agreements.

9. Arrange for joint meetings between BLM and permittees.

B. Recommendations for Long Range Action

1. Designate another task force to develop a standard fee system.

2. Designate employees to develop a complete inventory and audit of road records.

3. After foregoing is completed, implement changes by use of manual directives.

4. Furnish 5-year summary of maintenance costs to task force for developing a standard maintenance fee.

AUTHORITY FOR ROAD ADMINISTRATION

I. Authority for Private, Public and Federal Road Construction and Use

A. Private construction and use of roads on public lands.

1. Private roads under Act of January 21, 1895, and 1937 O&C Act. 43 CFR 2810.
2. Roads authorized under SLUP and FUPs. 43 CFR 2920

B. Public roads and highways constructed on public lands.

1. Federal Aid Highway Acts 23 USC Chapter 1, 43 CFR 2820.
2. Establishment of highways under RS 2477, 43 CFR 2820.

C. Federal road construction on public and private lands.

1. Appropriation statutes.
2. Federal Highway Acts 23 USC 209.
3. Acquire rights-of-way on privately owned lands for timber access roads. Act of July 26, 1955 (69 Stat. 374).
4. Construction of appropriated fund and timber sale roads necessary for harvesting timber products, 1937 O&C Act, 43 CFR 2812.
5. Cooperative agreements for construction and use of roads, 1937 O&C Act, 1960 Public Land Administration Act, 43 CFR 2812.0-6.

D. Road contract administration, 23 USC 112 and 209, 23 CFR 1.15.

E. Road planning, construction and utilization.

1. Land and resource utilization, 1937 O&C Act and 1960 Public Land Administration Act, 43 CFR 2810, 4100, 5000, 6000.
2. Environmental impact guidelines. Guidelines of the Council on Environmental Quality, 36 F.R. 7724.
3. Relocation and acquisition. 42 USC Chapter 61, 40 CFR Part 4.
4. Construction requirements, 23 USC Chapter 1, 23 CFR Chapter 1.

II. Authority for Financial Accounting

A. Congressional declaration of policy for effective control over income, expenditures, funds, property and other assets. 31 USC 65.

1. Head of each agency shall establish and maintain accounting systems. 43 USC 66a(a).
2. Agency accounting system must conform to standards prescribed by comptroller. 43 USC 66a(b).
3. GAO to cooperate in developing and establishing systems. 43 USC 66(b).

B. Congressional requirements that services shall be self-sustaining to the full extent possible and the head of the agency is authorized to prescribe fees, charges, or prices. The fee shall be fair and equitable taking into consideration direct and indirect costs to the Government, value to the recipient, public policy or interest served, and other pertinent facts. 31 USC 483a.

1. Fees of executive agencies shall be as uniform as practicable and subject to such policies as the President may prescribe. 31 USC 483a.
2. Criteria for user charges established by BOB Circular No. A-25, September 23, 1959, apply to all Federal activities which convey spiral benefits to recipients above and beyond those accruing to the public at large.
3. Agency responsibility under BOB Circular No. A-25. The responsibility for the initiation, development, and adoption of schedules of charges and fees consistent with the policies in this Circular continues to rest with the agency. Each agency shall:

a. Identify the services or activities covered by this Circular;
b. Determine the extent of the special benefits provided;
c. Apply accepted cost accounting principles in determining costs;
d. Establish the charges; and
e. In determining the charges for the lease and sale of Government-owned resources or property, apply sound business management principles and comparable commercial practices.

4. Cost, fees and receipts and their determination.

   a. Determination of costs. Costs shall be determined or estimated from the best available records in the agency, and new cost accounting systems will not be established solely for this purpose. The cost computation shall cover the direct and indirect costs to the Government of carrying out the activity, including but not limited to:

      (1) Salaries, employee leave, travel expense, rent, cost of fee collection, postage, maintenance, operation and depreciation of buildings and equipment, and personnel costs other than direct salaries (e.g., retirement and employee insurance);
      (2) A proportionate share of the agency's management and supervisory costs;
      (3) A proportionate share of military pay and allowances, where applicable;
      (4) The costs of enforcement, research, establishing standards, and regulation, to the extent they are determined by the agency head to be properly chargeable to the activity.

   b. Establishment of fees to recover costs. Each agency shall establish fees in accordance with the policies and procedures herein set forth. The provisions of this Circular, however, are not to be construed in such a way as to reduce or eliminate fees and charges in effect on the date of its issuance. The maximum fee for a special service will be governed by its total cost and not by the value of the service to the recipient. The cost of providing the service shall be reviewed every year and the fees adjusted as necessary. In establishing new fees and increasing existing fees the agency may make exceptions to the general policy (paragraph 3, above) under such conditions as illustrated below.

      (1) The incremental cost of collecting the fees would be an unduly large part of the receipts from the activity.
      (2) The furnishing of the service without charge is an appropriate courtesy to a foreign country or international organization; or comparable fees are set on a reciprocal basis with a foreign country.

(3) The recipient is engaged in a nonprofit activity designed for the public safety, health, or welfare.
(4) Payment of the full fee by a State, local government, or nonprofit group would not be in the interest of the program.

c. Disposition of receipts. Legislative proposals shall generally avoid disturbing the present rule that collections go into the general fund of the Treasury as miscellaneous receipts. However, exceptions may be made where:

(1) It is intended that an agency or program or a specifically identifiable part of a program be operated on a substantially self-sustaining basis from receipts for services performed or from the sale of products or use of Government-owned resources or property.
(2) The agency can show that the initiation or increase of fees or charges is not feasible without earmarking of receipts.
(3) The receipts are in payment of the cost of authorized special benefits for which the demand is irregular or unpredictable, such as inspections performed upon request outside the regular duty hours.

This Circular is not intended to change the present system of sharing with States and counties receipts from the lease of certain lands and the sale of certain resources.

5. Payment for road use.

a. Payment to U.S. where permittee constructs and uses road under 1895 Act. Permittee shall pay $5.00 per mile. 43 CFR 2812.5-2(a).
b. Payment to U.S. where permittee uses road constructed or acquired by the U.S. Fee to be based upon amortization of the replacement costs for a road of the type involved, together with reasonable interest allowance on such costs plus costs of maintenance if furnished by the U.S. and any extraordinary costs peculiar to the construction and acquisition of the road. In the case of federally acquired or constructed access roads, an allowance representing a

reasonable allocation for recreational or other authorized use shall be deducted from the replacement costs of the road before the amortization item is computed. A similar allowance and deduction shall be made in cases involving roads constructed as a part of a timber sale contract when, and if, subsequent to completion of such contract any such road becomes subject to recreational or other authorized uses. In arriving at the amortization item, the authorized officer shall take into account the probable period of time, past and present, during which such road may be in existence, and the volume of timber which has been moved, and the volume of timber currently merchantable which probably will be moved from all sources over such road: Provided, however, That this subdivision shall not apply where the permittee transports forest products purchased from the United States through the Bureau of Land Management, or where payment for such road use to another permittee is required under this subpart 2812: Provided further, That where the fee for the use of a road, the authorized officer may waive such fee if the permittee grants to the United States and its licensees the right to use, without charge, permittee's roads of approximately equal value as determined under the methods provided in this subdivision and paragraph 2812.4-1(b), as may be applicable. 43 CFR 2812.5-2(b).

c. Public roads and highways. No rental charge.
d. SLUP roads. FMV road use. 43 CFR 2920.4.
e. Road users may be required to maintain roads and to share costs of maintenance or deposit money with Secretary for such maintenance. 43 USC 1382. 43 CFR 2812.0-6(e) and 2812.6-2(b)(1).

III. Authority for Property Accounting (Inventory and Disposal)

A. Each agency to maintain inventory controls and accountability systems for the property under its control. 40 USC 483(b).

B. Principles and standards for property accounting systems established by Comptroller General. Systems developed by GSA. 40 USC 486(b).

C. Annual Real Property Inventory established under GSA regulations. Title 41 CFR Part 101-3. The inventory of Federal

Real property was initiated and is being continued at the request of the Senate committee on appropriation. 41 CFR 101-3.101.

1. Coverage includes unreserved public domain; real property acquired by purchase, construction, donation and other methods; buildings or other structures and facilities owned by the Government whether or not located on Government land.
2. Requirement for submitting annual report of real property owned by the U.S. 41 CFR 101-3.204.
3. Optional reporting method provided where electrical accounting machine equipment is used by an agency. 41 CFR 101-3.2.
4. Block 23 of Form 1166 includes item "Other structures and facilities". Code 76 of Block 23 provides information about roads and bridges. Cost is reported in thousands of dollars. GSA Form 1166.
5. Instructions for Preparation of Form 1166 state that costs shall include any capital improvements (as defined under Block 22) incurred subsequent to date of acquisition. The explanation under Block 22 provides: The cost of buildings shall include the cost of all capital improvements incurred subsequent to date of original acquisition by the Government. Capital improvements, as prescribed in the GAO Policy and Procedures Manual, Section 7030, Par. 30, are defined as: "Betterments or improvements to realty are capitalized when they: (1) constitute an enlargement of a structure, (2) provide additional or enlarged facilities, or (3) constitute a major renovation or other substantial improvement which materially increases the usefulness, productivity, or other value of real property, or substantially extends the useful life of the real property." Costs of federally owned buildings located on land not owned by the Government (e.g., land under lease or other right of occupancy) shall be reported. However, the cost of buildings held in trust by the reporting agency shall be excluded. In the absence of any recorded data as to costs, they shall be estimated and noted by the letter "E" after the amount. Estimates shall be based on costs at date of original acquisition by the Government, adjusted for subsequent capital changes. Estimate, if not known, the "cost" of the buildings acquired through donation, exchange, devise, forfeiture, or judicial process. The estimated "cost" should represent the amount the Government would have had to pay for the buildings if purchased at the date of original acquisition.

IV. Outline Index of Statutory and Regulatory Authorities

A. Statutes as codified in the United States Code.

Title 16 Conservation

section 1241 - National Trails System
section 1271 - Wild and Scenic Rivers

Title 23 USC Highways

section 129 - Tolls, roads, bridges, tunnels and ferries
section 101 - Definitions, public land development roads
section 214 - Public lands development roads and trails
section 201 - Authorization
section 202 - Apportionment or Allocation
section 209 - Public land highways
sec. 107(d) - Acquisition of rights-of-way - Interstate system
section 108 - Advance acquisition of rights-of-way

Title 28 Judiciary and Judicial Procedure

section 2671 - Definitions
section 2672 - Administrative adjustment of claims
section 2674 - Liability of the United States

Title 31 Money and Finance

section 483a - Services as self-sustaining; uniformity; regulations; deposit in Treasury; effect on other laws
Subchapter I - General Provisions
section 65 - Congressional declaration of policy
Subchapter II- Accounting and reporting in executive agencies

Title 40 Public Buildings, Property and Works

section 255 - Title to land to be purchased by U.S.; acquisition by U.S. of jurisdiction over lands
section 257 - Condemnation
section 258a - Land, easements or rights-of-way for public use
section 276a - Rate of wages for laborer and mechanics
section 484 - Disposal of surplus property
section 484a - Disposal of surplus real estate and buildings; comprehensive and coordinated plan of use and procurement
section 485 - Proceeds from transfer, sale, etc. of property

section 486 - Policies, regulations and delegation
section 487 - Surveys of Government property and property management practices, etc.

Title 41 Public Contracts

Chapter 1 - General Provisions sec. 1 to 54
Chapter 4 - Procurement Procedures sec. 201 to 291

Title 42 Public Health and Welfare

Chapter 8C - Open-Space Land, Urban Beautification, and Historic Preservations sec. 4321 to 4347
Chapter 55 - National Environmental Policy
Chapter 61 - Uniform Relocation Assistance and Real Property Acquisition Policies for Federal and Federally Assisted Programs

Title 43 Public Lands

section 932 - Rights of way for highways R.S. 2477
section 956 - Rights of way for tramroads, canals or reservoirs
section 1201 - Power of Secretary or designated officer
section 1181a- O&C and CBWR Conservation Management
section 1181b- Cooperative Agreements
section 1181f- Annual distribution of money in special fund
section 1231 - Payment of moving expenses to owners and tenants of lands acquired for developments, limitations on amount; application for payment. (Also, covered by new law, 42 USC Chapter 6)
section 1361 - Definitions of public lands
section 1362 - Improvement, management, use and protection of Public lands and resources, etc.
section 1363 - Cooperative agreements
section 1364 - Contributions and donations
section 1371 - Service charges and excess payments
section 1381 - Deposits and forfeitures
section 1382 - Maintenance of roads and trails
section 1383 - O&C and CBWR expenditures of money collected for the benefit of land; transfer of excess

Title 44 Public Printing and Documents

section 3101 - Records management by agency heads; general duties
section 3102 - Establishment of program of management
section 3103 - Storage, processing and servicing of records
section 3105 - Safeguards
section 3301 - Disposal of records

B. Regulations

Bureau of Budget Circular No. A-25, September 23, 1959. Subject: User Charges.

1. Purpose
2. Coverage
3. General Policy
4. Agency Responsibility
5. Cost, fees and receipts, and their determination
6. Changes in existing law
7. Reports to Bureau of Budget

Bureau of Budget Circular No. A-25, Transmittal Memorandum No. 1, October 22, 1963. Subject: User Charges. Provides for inventory of user charges, annual status reports, and User Charges Report.

Council on Environmental Quality

Statements on Proposed Federal Actions Affecting the Environment - Guidelines 36 F.R. 7724, April 23, 1971.

Title 23 Highways

Chapter 1 - Bureau of Public Roads
Part 1 - Administration of Federal Aid for Highways
Sec. 1.10 - Surveys, plans, specifications and estimates
1.11 - Engineering services
1.15 - Construction contracts and force account work

Title 36 Parks, Forests, and Memorials

Chapter II - Forest Service, Department of Agriculture
Sec. 212.6 - Maintenance proportional to total use. Also include reconstruction if necessary to accommodate use.

Title 40 Protection of Environment

Part 4 - Interim Regulations and procedures for implementing the Uniform Relocation Assistance and Real Property Acquisition Act of 1970
Chapter 1 - Environmental Protection Agency
Subpart B - Requirements for Federal Assisted Projects
Subpart I - Acquisition of Real Property

Title 41 Public Contracts and Property Management

Subtitle A - Federal Regulation System
Chapter 14 - Department of the Interior
Subpart 14-1.3 - General Policies
14-1.4 - Procurement Responsibility and Authority
14-2 - Procurement by formal advertising
14-3 - Circumstances permitting negotiation
14-8 - Termination of Contracts
14-8.6 - Termination for Default
Chapter 101 - Federal Property Management
Chapter 101-3 - Regulations Annual Real Property Inventories
101-3.202 - Coverage (includes unreserved PD) and property
101-3.203 - Exclusions (R/Ws on easements granted to Government)
101-3.203e - Land held under permit from another Government agency
Part 101-47 - Utilization and Disposal of Real Property
Subpart 101.47.5 - Abandonment, Destruction, or Donation to Public Bodies
Chapter 101-47.103-12 - Real Property

Title 43 Public Lands: Interior

Subtitle A - Office of the Secretary of the Interior
Part 2 - Records and testimony
Part 4 - Hearings and Appeals Procedures
Part 10 - Land acquisition, payment of moving expense (see 40 CFR Part 4)
Part 17 - Nondiscrimination provisions
Part 19 - Wilderness Preservation
Part 22 - Administrative Claims under Federal Tort Claims Act
Subtitle B - Regulations relating to Public Lands
Chapter II - Bureau of Land Management, Department of the Interior
Part 1720 - Program Objectives
Part 1820 - Application Procedures
Part 1840 - Appeals Procedures
Part 1850 - Hearings Procedures
Part 2110 - Gifts under (43 USC 315g) and (43 USC 1364)
Part 2200 - Exchanges - General Procedures
Part 2800 - Rights of Way - Principles and Procedures
Part 2810 - Tramroads and logging roads
Part 2820 - Roads and highways
Part 2920 - SLUPs and FUPs
Part 4100 - Range Management
Part 5000 - Forest Management

Part 6000 - Recreation and Wildlife
Part 9239.7 - Trespass - Rights of Way O&C Lands. Same as 2812.1-3 Trespass

V. Selected Legal Reference Materials Placed in Road Study File

Attach. No. 1 - 31 USC sec. 65, 66, 66a
Attach. No. 2 - 31 USC sec. 483a
Attach. No. 3 - 43 USC sec. 1382
Attach. No. 4 - 43 CFR sec. 2812.5-2
Attach. No. 5 - BOB Circ. No. A-25
Attach. No. 6 - 40 USC sec. 483, 486, 487
Attach. No. 7 - 41 CFR Part 101-3

SYSTEM BASIS FEE
ELK CREEK - WEAVER ROAD SYSTEM*

I. Mainline roads and tie spurs

Length	127 miles
No. of Road Record Files	130
Cost	$ 6,810,000
Tributary Volume	3,522,481 M 1/
Present Use fees (using segments)	$ 92.29/M
Present Use fees /M/Mile	$ 0.73
Proposed Use fee (using entire system)	$ 1.99/M
Proposed Use fee /M/Mile	$ 0.02

II. Spur Roads 2/

Length	193 miles
No. of Road Record Files	233
Cost	$ 1,905,000 3/
Tributary Volume	3,522,481 M
Present Use fees (using segments)	$ 123.52/M
Present Use fees /M/Mile	$ 0.64 4/
Proposed Use fee (using entire system)	$ 0.56
Proposed Use fee /M/Mile	$ 0.003

III. Proposed Roads (from Transportation Plan)

Length (estimate)	66 miles
No. of Road Record Files (estimate)	132
Cost (estimate)	$ 1,587,000 5/
Tributary Volume (estimate)	1,500,000 M
Present Use fees (using segments)	$ 42.24/M
Present Use fees /M/Mile (from II above)	$ 0.64
Proposed Use fee (using entire system)	$ 1.09/M
Proposed Use fee /M/Mile	$ 0.017

IV. Summary Present System (I and II)

Length	320 miles
No. of Road Record Files	353
Cost	$ 8,715,000
Tributary Volume	3,522,481 M
Present Use fees (using segments)	$ 215.81/M
Present Use fees /M/Mile	$ 1.37
Proposed Use fee (using entire system)	$ 2.55/M
Proposed Use fee /M/Mile	$ 0.023

V. Summary Present and Proposed Systems (I, II and III)

Length	386 miles
No. of Road Record Files	495
Cost	$ 10,302,000
Tributary Volume	---
Present Use fees (using segments)	$ 285.05/M
Present Use fees /M/Mile	$ 0.74
Proposed Use fee (using entire system)	$ 3.64/M
Proposed Use fee /M/Mile	$ 0.04

1/ Tributary Volume is based on the calculated volume, tributary to Segment A of the mainline roads.

2/ Timber sale roads not intended to be main thoroughfares nor part of the permanent access system.

3/ Costs are taken from the District inventory.

4/ Actual use fees on 37 miles of spur roads were totaled and a fee/M/Mile was calculated. This fee was then used to calculate "Present use fees (using segments)."

5/ This cost reflects higher construction costs and higher standards than were used for those roads in Paragraph II.

* The figures included here are not complete and are estimates in part. Both BLM and private roads are included.

AVERAGE ROAD FEE

Road No.	Segment	Length (Miles)	Fee/M/Segment
15-7-17	A	3.8	$ 1.28
15-7-23	C & D	3.7	0.34
15-7-23	B	1.4	0.16
16-7-12	B	1.2	0.06
16-7-30	A & B	0.8	0.21
18-6-5	All	3.1	0.90
18-8-16.1	B	0.5	0.07
18-8-28	A	0.5	0.21
19-8-16.1	A	0.6	0.24
19-8-21	All	3.6	1.08
20-4-9	A	0.8	0.10
20-5-21.3	C	1.1	0.10
20-6-11	All	2.9	0.56
14-2-25.2	A	0.9	0.59
15-1-9	C	1.0	0.56
19-1-30	B	1.2	0.26
20-1-4.1	B	2.2	0.38
20-1-10.1	C	0.9	0.27
20-1-10.1	D	0.6	0.23
20-1-10.3	All	1.8	0.24
20-2-32	A	0.6	0.18
23-2-7.1	A	1.1	0.31
23-2-16.1	A	0.2	0.12
23-3-3	B	1.0	0.27
23-3-12	C	2.9	0.64
Totals		38.4	$ 9.35

$9.35 ÷ 38.4 = $0.2434 -- Rounded to $0.25/M/Mile

APPROXIMATE AVERAGE FEES FOR SINGLE LANE ROCKED ROADS
BASED ON A 25 ROAD SAMPLE IN EACH

	Coos Bay	Medford	Roseburg	Eugene	Salem
Fee/M/Mile	$0.77	$0.425	$0.43	$0.27	$0.365
Average Haul in Miles	9.9	2.6	4.2	3.0	5.8

ALLOCATION FORM

Form 2234-11
(April 1968)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ROAD USE EVALUATION AND
REPLACEMENT COST CALCULATION SHEET

☐ Single lane 25%

☐ Double lane 42%

Date

Road name

Road Number

Evaluator

R/W Number

SPECIFIC USES	SUGGESTED POINT VALUE	CHECK	TOTAL
A. Recreation Attraction			
1. Driving and Sightseeing	14		
2. Picnicking	11		
3. Hunting	8		
4. Fishing	7		
5. Water Sports	6		
6. Camping	5		
7. Hiking	3		
8. Rock Hounding	2		
9. Winter Sports	1		
10. Bicycling *(motorized)*	1		
11. Horseback Riding	1		
12. Nature Areas	1		
13. Through Traffic	10		
	MAXIMUM POINTS	70	
B. Special Uses			
1. Mineral Hauling	18		
2. Farm Produce	5		
3. Home	4		
4. Community Business	2		
5. Community Club	1		
	MAXIMUM POINTS	30	
		TOTAL POINTS	

REPLACEMENT COST CALCULATION

I. Replacement Cost $

II. Separable Costs *(list)*

a.

b.

c.

d. etc.

TOTAL $

III. Basic apportionment (60.5%) and selected maximum allocation – 25% (S.L.) or 42% (D.L.)

IV. Evaluation Factor *(total points above)**

V. Summary Allocation Calculation [Step I - Step II] × [Step III × Step IV] + Step II = Allocation

VI. ADJUSTED REPLACEMENT COST: Step I - Step V

Approved by

Date

* *Taken from Road Use Evaluation Analysis above*

INSTRUCTIONS

To quality for allocation, a road or road facility must have the following prerequisites:

1. be controlled by the United States;
2. be eligible for road use fee charges by the United States;
3. rights acquired by the United States must be adequate to permit uses other than transportation of forest products and the road in use for these purposes;
4. if covered by an existing right-of-way permit, such permit must be dated subsequent to May 14, 1963, except in those instances where Rights-of-Way and Road Use Agreements executed prior to this date contain a provision concerning allocation of road replacement costs for uses other than transportation of forest products.

Steps In The Determination Of Adjusted Replacement Cost:

I. determine replacement cost;
II. determine separable costs, i.e., construction costs not applicable to log hauling;
III. determine basic apportionment percentage attributable to all vehicles;
IV. determine percent of allocation for uses other than logging;
V. determine adjusted replacement cost.

Four (4) Categories Of Road Will Be Considered:

1. roads constructed with appropriated funds;
2. roads constructed by BLM timber purchasers under authority of a timber sale contract;
3. roads acquired by BLM through expiration of a right-of-way permit, trespass, etc.
4. roads purchased by BLM.

Explanation Of Steps I Thru V Above

Step I — Replacement Cost. Cost of category 1, above, is the actual construction cost of a road including right-of-way acquisition, construction, engineering, surveying, administrative, and other costs attributable to road construction.

Cost of categories 2 and 3, above, is an engineering appraisal including indirect costs based on the current replacement cost of a road, taking into account its current condition rather than its condition at the time of completion.

Cost of category 4, above, is the road purchase price or court award plus BLM costs of engineering, survey, appraisal, administrative costs, and subsequent improvements.

Step II — Separable Costs. After determination of replacement cost, those facilities which were constructed primarily for uses other than log hauling must be identified. These will be items such as sidewalks and hand rails on bridges and approach roads to recreation sites. Costs of these construction items are deducted from the replacement cost, *Step I*, above.

Step III — Basic Apportionment. When replacement cost has been determined and separable cost items have been identified, a basic apportionment is made based on responsibilities of vehicles 6,000 lbs. or over. This basic apportionment is 39.5%. Therefore, the allocation for use other than transportation of forest products is applied to the residual 60.5% of replacement cost *(Step I)* less separable costs *(Step II)* as determined above.

Step IV — Allocation of Uses. Each road has a limit to its "other-than-transportation-of-forest-products" use and still be an effective road for the purpose for which a permit is written. Maximums for single and double lane roads are 25% and 42%, respectively, however, each road must be considered on its own merit.

To determine the allocation to "other uses" within the above maximums, current and projected uses for a road must be determined. This form serves for both this determination and as a summary for the Adjusted Replacement Cost calculation.

Two major groups of road uses are recognized, i.e., Group "A," *"Recreation Attraction"* and Group "B," *"Special Uses."* A maximum of 70 points has been assigned *Recreation Attraction* and 30 points for *Special Uses.* Within each major grouping, individual uses are assigned suggested values. These suggested point values may be exceeded within each group but total points for *Recreation Attraction* may not exceed 70 points nor may points for *Special Uses* exceed 30 points without approval of the State Director.

In determining points, an inspection of the road should be made. It should be recognized that the individual use values assigned are suggested values, to receive maximum points allocable for any single use, the road must serve an area which offers the majority of attractions for that particular use.

DEFINITION OF INDIVIDUAL USES

Group "A" — Recreation Attractions

1. Driving and Sightseeing — Roads offering access to a year-round flowing river, streams, waterfalls, viewpoints, rest and recreation areas, historic sites, log dumps, large stands of old growth timber, profusion of wild flowers, logging activity, summer homesites, farms, and river traffic. A total point value of *14* is assigned.
2. Picnicking — A road should afford access to approximately eight sites to qualify for maximum points assigned.
3. Hunting — Maximum use might be a road serving several species, i.e., deer, elk, and bird shooting.

4 through 12 do not require definition.

13. Through Traffic — Is given suggested points of 10. Under this use, spur roads which eventually connect county roads should not be considered. This class of use is intended for roads such as mainline roads which start and end on county or state highways. A good example of a 10 point road would be one constructed to approximately the same standards as a state secondary highway and projected to connect a state highway with a major county road. The road should have good surfacing and alignment.

Group "B" — Special Uses

1. Mineral hauling means the commerical hauling of locatable minerals. This does *not* include rock hauling for road construction, maintenance for timber sale access roads, or any other use attributable to BLM's multiple use management. This latter use is to be considered applicable to the transportation of forest products for purposes of this evaluation.

The total points are to be added and applied to the maximum percent of allocation, i.e., 25% for single lane roads and 42% for double lane roads.

2 through 5 do not require definitions.

Step V — Adjusted Replacement Cost. Steps II, III, and IV are deducted from the determination of Step I, resulting in the adjusted replacement cost to be used in the road use fee calculation.

Upon completion, this form should be signed, dated, and kept in the applicable right-of-way permit file.

The terms "allocation" and "percentages" used here should not be confused or used synonymously with pro rata road maintenance. This procedure is for allocating a portion of the replacement cost of a road for calculation road use fees and does not effect road maintenance fees.

SAMPLE OF ALLOCATION CALCULATION

Given: I Replacement Cost $1,500,000, II Separable Cost $30,000, III Basic apportionment 60.5% (D.L.) 42%, IV Evaluation Factor 77%

V Summary Allocation Calculation [Step I — Step II] × [Step III × Step IV] + Step II = Allocation

($1,500,000 — $30,000) (60.5% × 42% × 77%) + $30,000

($1,470,000) × (.195657) + $30,000

$287,615 + $30,000 = $317,615 (Total Allocation)

VI Adjusted Replacement Cost: Step I — Step V $1,500,000 — $317,615 = $1,182,385

GPO 843-385

RESULTS OF AVERAGE FEE COMPUTATION

Type of Road	Standard Error	Average Fee/MBF/Mile
Natural Surface	± .08	$ 0.34
Bar and Pit Run Surface	± .13	$ 0.39
Crushed Rock Surface	± .13	$ 0.54
Access Roads	± .19	$ 0.18
All Roads but Bituminous	± .08	$ 0.43
All Roads	± .07	$ 0.38
All Rocked Roads	± .11	$ 0.49

These averages were based on nearly 1000 road samples randomly selected from the five western Oregon districts. This represents about a 5% sample. The road segments were weighted by length so that each mile of road had equal weight. The standard error is for one deviation.

Road use fee data used in the average fee computations are also included in this appendix.

	N	Fee/M	Std. Error Fee/M	Fee/M/mi.	Std. Error Fee/M/mi.	Segment Length	Std. Error Seg. Length
SINGLE LANE - NATURAL							
ALL DISTRICTS (BLM Roads)	223	.217	.022	.492	.091	.775	.068
ALL DISTRICTS (Private Roads)	130	.319	.032	.731	.094	.675	.053
SINGLE LANE - BAR RUN							
ALL DISTRICTS (BLM Roads)	137	.370	.045	.560	.078	1.034	.166
ALL DISTRICTS (Private Roads)	84	.342	.035	1.549	.436	.699	.083
SINGLE LANE - CRUSHED ROCK							
ALL DISTRICTS (BLM Roads)	222	.555	.057	.709	.074	1.002	.065
ALL DISTRICTS (Private Roads)	130	.546	.056	1.302	.271	1.028	.119
SINGLE LANE - ROCK (BAR RUN AND CRUSHED)							
ALL DISTRICTS (BLM Roads)	362	.509	.044	.673	.059	1.016	.074
ALL DISTRICTS (Private Roads)	212	.469	.037	1.411	.024	.896	.008
BITUMINOUS							
ALL DISTRICTS (BLM Roads)	12	.372	.132	.311	.153	1.942	.561
ALL DISTRICTS (Private Roads)	2	.145	.015	.173	.013	.850	.149

1 LANE
ALL SURFACES

	N	Fee/M	Std. Error Fee/M	Fee/M/mi	Std. Error Fee/M/mi	"F" SEE (Regression	Constant Fee/M	Coefficient - Length)	"F" SEE (Regression	Constant Fee/M/mi	Coefficient - Length)
ALL DISTRICTS	941	.402	.021	.799	.064	F 53.79 SEE .617	.29189	.12266	F 16.65 SEE 1.963	.993	- .2173

$/M =-.079 - .052 (Seg. No.) + .251 (Surface No.) - .0098 (Surface No.^{3}) + .339 (Length) - .0548 (Length^2) + .002114 (Length^3)

$/M/Mi. = .481 - .1315 (Segment No.) + 1.0848 (Surface No.) - .20708 (Surface Sqd.) - .9725 (Lgth) + .1628 (Lgth^2) - .005916 (Lgth^3)

Where:

Segment No.	Surface No.
A = 1	Natural = 1
B = 2	Bar Run = 2
C = 3	Crushed Rock = 3
D = 4	Bituminous = 4
E = 5	
F = 6	
G = 7	
H = 8	
I - M = 9	

SINGLE LANE - NATURAL

District	N	Fee/M	Std. Error Fee/M	Fee/M/mi	Std. Error Fee/M/mi	Segment Length	Std. Error Seg.Lgth.	"F" SEE (Regression	Constant Fee/M -	Coefficient Length)	"F" SEE (Regression	Constant Fee/M/mi -	Coefficient Length)
EUGENE	72	.815	.092	.794	.116	1.27	.111	F 11.13 SEE .73027	.423611	.307089	F 3.364 SEE .97522	1.08164	-.225511
MEDFORD	117	.222	.032	.429	.079	1.01	.118	F 6.691 SEE .33791 L^2 3.9430 L^3 3.3619	.157586	.0639327	F 4.702 SEE .8393 L^2 3.1460	.564109	-.133110
ROSEBURG	105	.238	.032	.686	.191	.551	.041	3.303 SEE .3273 -	.162841	.136472	F 3.072 SEE 1.926 —	1.11310	-.774566
COOS BAY	64	.328	.043	.673	.076	.572	.058	8.395 SEE .3253 L^2 7.218 L^3 5.554	.18179	.25534	F 2.706 SEE .6023	.82665	-.26838
SALEM	36	.306	.078	.714	.197	.638	.109	F 2.72 SEE .460	.182	.19579	F 1.39 SEE 1.177	.942	-.35650
ALL DISTS.	353	.254	.018	.580	.067	.738	.047	F 15.11 SEE .341 L^2 11.861	.196	.07918	F 8.62 SEE 1.50 L^2 4.931	.742	-.21953

BAR RUN

DISTRICT		Fee/M	Std. Error Fee/M	Fee/M/mi	Std. Error Fee/M/mi	Segment Length	Std. Error Seg. Lgth.	"F" SEE (Regression	Constant Fee/M	Coefficient - Length	"F" SEE Regression	Constant Fee/M/mi	Coefficient - Length)
EUGENE	31	.217	.038	.446	.079	.787	.179	F 7.603 SEE .19181 L^3 3.9029 L^3L^2 4.0805	.141741	.0961488	F 3.121 SEE .42522	.553079	-.136578
MEDFORD	54	.472	.080	.621	.165	1.489	.376	F 10.94 SEE .53718 L^2 3.2290 L^2L^3 3.0129	.33993	.0888529	F 1.028 SEE 1.20524	.712132	.0611221
ROSEBURG	69	.375	.062	.398	.053	1.138	.154	F 108.8 SEE .3191 L^3 7.93	.241193	.0460593	F 1.339 SEE .4411	.452901	-.0485353
SALEM	76	.290	.039	1.704	.479	.383	.037	F 6.15 SEE .325	.233	.229176	F 5.96 SEE 4.04	3.058	-3.53194
ALL DISTS.	222	.403	.053	.973	.178	.907	.108	F 19.85 SEE .762 L^3	.274	.142246	F 2.86 SEE 2.638 L^2 L^2L^3	1.143	-.187000

DISTRICT		Fee/M	STD. ERROR Fee/M	Fee/M/Mi	Std. Error Fee/M/Mi	Segment Length	Std. Error Seg. Length	"F" Fee/M - Dist.	Constant	Coefficient	"F" Fee/M/Mi	Constant	Coefficient
EUGENE	22	.276	.052	.746	.210	.559	.125	1.823	.208766	.120093	2.274	1.04586	-.537085
								SEE .21374			SEE .85585		
								-					
MEDFORD	29	.296	.046	.394	.147	1.510	.277	3.099	.214871	.0533960	1.997	.603975	-.139089
								SEE .23964			.77757		
								L^3 3.8342			-		
ROSEBURG	41	.595	.140	.778	.257	1.090	.152	.1079	.61221	-.00286	1.039	1.07395	-.27181
								SEE .9034		L^3	SEE 1.645		
COOS BAY	122	.665	.069	.964	.109	1.155	.123	.1394	.67060	-.00035	10.11	1.25025	-.24758
								SEE .7566		L^3	SEE 1.158		
											L^2 4.706		
											L^3 4.280		
SALEM	88	.242	.044	1.233	.386	.399	.386	F 2.85	.203	.13652	F 3.28	1.998	-1.91873
								SEE .411		L	SEE 3.579		
ALL DISTS.	352	.551	.038	.928	.111	1.012	.060	11.08	.439	.110788	9.85	1.239	-.307329
								.701			2.064		
								L^2 18.89			L^2 4.69		
								L^2 L^3 8.40					
							BITUMINOUS						
COOS BAY		.339	.116	.291	.132	1.786	.480	.07439	.30548	.01893	.7423	.36167	-.01151
								SEE .4446			SEE .40333		L^2

ACCESS ROADS - BITUMINOUS

District	N	Fee/M	Std. Error Fee/M	Fee/M/mi	Std. Error Fee/M/mi	Segment Length	Std. Error Seg.Lgth.	"F" SEE (Regression	Constant Fee/M	Coefficient - Length)	"F" SEE (Regression	Constant Fee/M/mi	Coefficient - Length)
EUGENE	7	1.127	.238	.252	.057	4.943	1.212	F 3.00 SEE .545	.534	.12002 Length	F .634 SEE .156	.293	-.00127 L^2
MEDFORD	16	.706	.200	.520	.239	4.125	.936	F .734 SEE .809	.623	.00029 L^3	F 3.15 SEE .895 L^2 3.78 L^3 4.29	.972	-.10957 Length
ROSEBURG	8	.884	.241	.233	.097	5.963	1.428	F .271 SEE .718	.798	.00017 L^3	F 2.29 SEE .251	.446	-.03563 Length
COOS BAY	13	.588	.144	.472	.131	3.115	1.369	F 3.16 SEE .475 L^3 17.37	.433	.04957 Length	F 2.16 SEE .458	.595	.03940 Length
SALEM	12	.809	.208	.233	.051	4.375	1.102	F 1.29 SEE .711 L^3 4.11	.529	.06394 Length	F 1.73 SEE .169	.265	.00010 L^3
ALL DISTRICTS	56	.779	.091	.373	.071	4.309	.534	F 5.47 SEE .657	.556	.05177 Length	F 8.24 SEE .545 L^2 4.87 L^3 3.55	.600	.05267 Length

STATE _____
DISTRICT _____
FY _____

ROAD INVENTORY

(1) County	(2) Road Number Seq.	(3) Class of Road	(4) Road Control	(5) Principle Use	Miles (nearest tenth) (6) Within BLM	(7) Outside BLM	Unsurfaced (8) Undrained	(9) Drained	Surfaced (10) Gravel	(11) Bituminous	(12) Total	(13) Cost (nearest $100)	Shares (nearest $100) (14) U. S.	(15) Private	(16) Other
1	5 10	15	20		25	30		35	40		45	50	55	60	65

FORMAT FOR ROAD SYSTEM DATA *

Blanks shown as —, Letter O shown as Ø, Zero shown as 0, Same data for several lines in a column(s)

File Identification Data								Other Road No.	Road Number and Segment Designation (For BLM and Other Roads)										Road Control Use and Fee Requirements					4-Way Rd.Std. Classif. for Piece				Road Use & Cost Data Estimate in Amounts Per Mile for All BLM Roads & All Private & Quasiprivate Forest Roads on BLM Land						Remarks
		Township		Range					Twp.			Range				Segment				Commercial Use								Average Annual Use Est. 1000's of Tons/Mile/Year				Per Mile Cost Est.		
																												Road Use by User Groups				Const	Maint	
Model Type	Quadrant (cc Wm. Stone)	Whole	Fractional	Whole	Fractional	Quarter Township	Serial No. for Rd. Piece in Quarter Township	County State etc.	Whole Number	Direc. from Baseline	Fractional	Whole Number	Direc. from Meridian	Fractional	Section of Road Orgin. (Usually low elev. end)	Road Sequence Number in Orgin. Section	Letter X- or XX	Number 0# or ##	Road Control	BLM Rights	Fee Requirements	Non BLM Use Fee Requirements	Public Use	Alignment	Grade	Subgrade	Surface & Use Period	Commercial & Mgmt. Tbr. Haul & Tbr. Admin.	Non Tbr. Thru Traf. Grav. Land Admin	Non Comm. Use Recre. Thru Traf. Inter Resid.	Total Use Ton/Mi/Year	Curr Repl Cost Near $1000	Avg. Ann. Maint Cost at Est. Near $100	
1		5				10		15	20			25				30		35		40			45					50	55		60	65		70 75 80

Road Inventory Record

The state, district and fiscal year of the entry will be indicated at the top of the sheet.

Column (1) spaces 1-3; enter the county using the code given in section 1265, Appendix 1 of the BLM Manual.

Column (2) spaces 5-14; enter the road number and segment as a 10 digit number based on township, range, and section.

Column (3) spaces 15-19; enter the class of road as designated under section 9111.11B2 of the BLM Manual.

Column (4) spaces 20-22; indicate the road control or ownership using symbols given in section 9111.11B5, except for private roads, then use 3 digit letter code to represent individual owner.

Column (5) space 24; indicate the principle use of the road by the following legend.

1. A mainline or connecting road may interconnect drainages or market areas. Often a two lane road. Generally has considerable noncommercial use.

2. Timber harvest roads, usually built by timber sale for the primary purpose of hauling timber.

3. Administrative roads are roads built or maintained mainly for land management functions. May include roads with a past history of commercial use. Future commercial use is 20 or 30 years in the future.

Column (6) spaces 26-28 shows the number of miles, within BLM land.

Column (7) spaces 29-31 shows the number of miles, outside of BLM land.

Column (8) spaces 32-34 shows the number of miles, of unsurfaced and undrained road.

Column (9) spaces 35-37 shows the number of miles, of road graded and drained but nor surfaced.

Column (10) spaces 38-40 shows the number of miles of gravel surface, including pit run.

Column (11) spaces 41-43 shows the number of miles of bituminous surface.

Column (12) spaces 44-46 shows the total number of miles of columns 8, 9, 10 and 11.

Column (13) spaces 48-52 shows the cost of the road in hundreds of dollars.

Column (14) spaces 53-57 United States share in the total road cost.

Column (15) spaces 58-61 share of private companies or individuals.

Column (16) spaces 62-65 share of parties other than those in columns 14 and 15.

DEFINITIONS

For purpose of this report and to combat problems with terminology caused by lack of uniformity and lack of acceptable definitions, the following list was developed.

Abandonment: To relinquish interest in a road or removal of a road from property records.

Access Road - BPR Road: By general usage means a road constructed with appropriated funds with the aid of FHWA.

Allocation: The process of assigning certain road costs to road uses other than timber hauling.

Amortization: The procedure used to write-off of a value of a road by prorating the value against the expected use.

Amortization Fee: A monetary charge based on a value for a road divided by the volume of timber to be hauled over that road, usually expressed as a rate per M board feet.

Basic Fee: A fee based upon time and length of road use. It is not related to value or cost of road or volume hauled. Not a maintenance fee.

Basic Maintenance Fee: Portion of the maintenance fee which recovers the cost of all maintenance operations on a road except major surface replacement.

Black Top Wear: That portion of the maintenance fee which recovers cost of replacing an asphalt surface treatment on a road.

BLM Road: A road owned and/or controlled by BLM.

Capital Expenditure: Money spent for constructing or improving a road, not operating or maintenance expenses.

Capitalization: Setting up the capital expenditures for a road as an asset.

Construction: The physical act of building a road on the land.

Easement: The right to use the land of another for a specified purpose.

Force Account: The use of BLM work crews to accomplish a specific job.

General Ledger Account: The book of final entry in which a record of debits, credits, and all money transactions are kept.

Improvement: A valuable addition made to property (usually real estate) or an amelioration in its condition.

Maintenance: The physical process of keeping a road in its original constructed condition.

Maintenance Fees: A monetary charge for keeping a road in its original constructed condition, normally based on use.

Market Value: The highest price which a property will bring if exposed for sale in the open market by a seller who is willing but not obliged to sell, allowing a reasonable time to find a buyer who is willing but not obligated to buy, and who buys with the knowledge of all the uses to which the property is adapted and for which it is capable of being used.

Permit: Document by which a permittee receives the right to use United States lands.

Private Road: A road owned and controlled by a private individual, business or corporation. A road which the public does not have a legal right to use.

Pro-rata Maintenance: Road maintenance shared by joint road users based on their share of road use, usually based on degree of use as measured by volume hauled.

Public Road: A road on which the general public has the right of use. The general public includes private industry and government contractors. It is usually maintained by a state, county or city.

Rental Fee: A monetary charge for the use of a facility.

Replacement Cost: The current cost of replacing an existing facility with a facility of similar structure, condition and utility. Actual construction cost of the road including but not limited to R/W acquisition costs, construction costs, engineering, survey and administrative costs.

Right-of-Way Agreement: A document by which the United States receives the right to remove United States timber over privately owned lands.

a. Arbitration: A document which does not spell out the use conditions but specifies that such conditions shall be agreed upon at time of use or determined by the road owner or arbitration.

b. Detailed: An agreement in which all predictable conditions of road use are spelled out.

c. License: An agreement outlining conditions of road use between a person authorized to remove forest products from United States lands or State lands and the road owner with respect to the use of certain roads under the terms of a right-of-way agreement.

d. Semi-detailed: An agreement in which the major conditions of road use are spelled out.

Road Appraisal: Determination of the value of a road.

Road Control:

a. Exclusive: To exercise total restraining or directing influence over.

b. Non-Exclusive: To exercise a partial restraining or directing influence over.

Rock-Wear: A portion of the maintenance fee which recovers the cost of replacing rock lost through use of the road.

Swap-out: An exchange of equal road use values between the United States and a permittee, usually giving one or both free use.

Timber Sale Road: A road constructed under the terms of a timber sale contract.

Transportation Plan: A system used to depict the road situation for a given area. Consists of a map showing road location and an inventory. It should show proposed development or extension of existing road system.

Tributary Area: The area from which timber would logically be hauled over a certain road. "An area of forest land adjacent to an existing or potential road system or logical extension of either where the timber from such lands has moved over the road system and where the currently merchantable timber probably will be moved over such road system".

Tributary Timber: The volume of timber which has gone over a road and the volume of timber currently merchantable which will probably go over a road.

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